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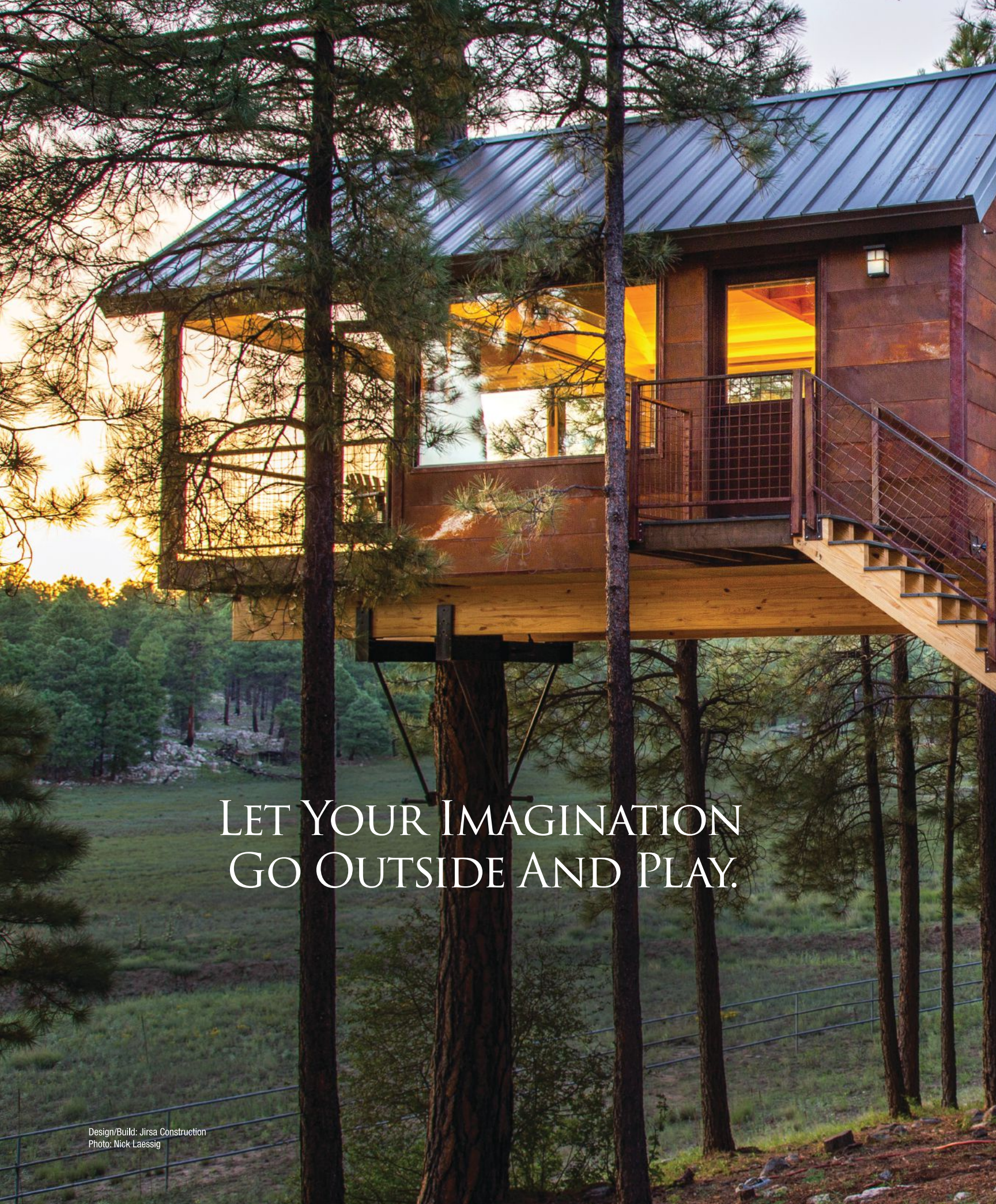




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The annual Progressive Architecture Awards, which in recent years have appeared in the February issue of ARCHITECT, will now appear in the March issue. Please check back next month to see the 2020 winners.

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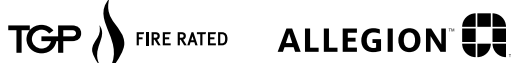
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Bright Future

Petersen's Tite-Loc Plus metal roofing system in a distinctive Marquis Orange finish brightens the vision of the new Latrobe Elementary School. The 22-gauge panels complement the classic terra cotta-toned brick that clads the upper two-thirds of the school's façade.

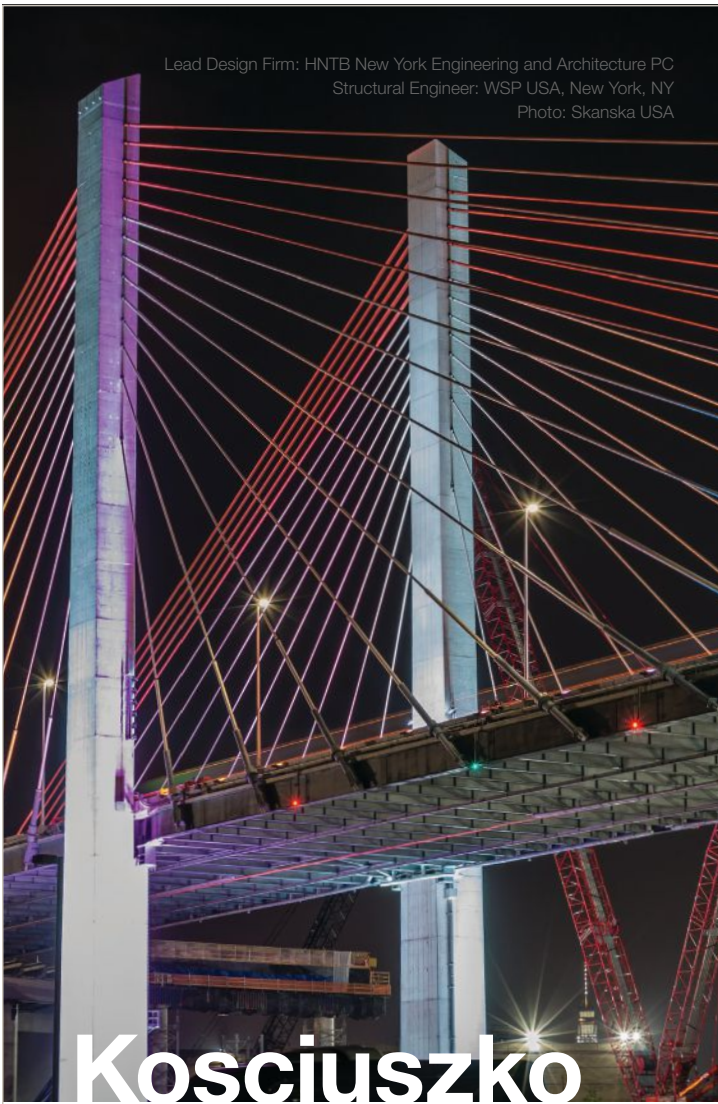
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Kosciuszko à Gogo

The design of urban infrastructure affects city life as much as the design of its buildings. That's why replacing the **Kosciuszko Bridge**—a notorious pinch point in traffic between Brooklyn and Queens—was a high priority for Governor Cuomo. With heavy lifting from **HNTB**, **WSP USA**, and **Skanska**, a striking cable-stayed span has risen where the outdated bridge once stood, ensuring New Yorkers may still have trouble saying its name, but they never have trouble getting home. Read more about it in **Metals in Construction** online.

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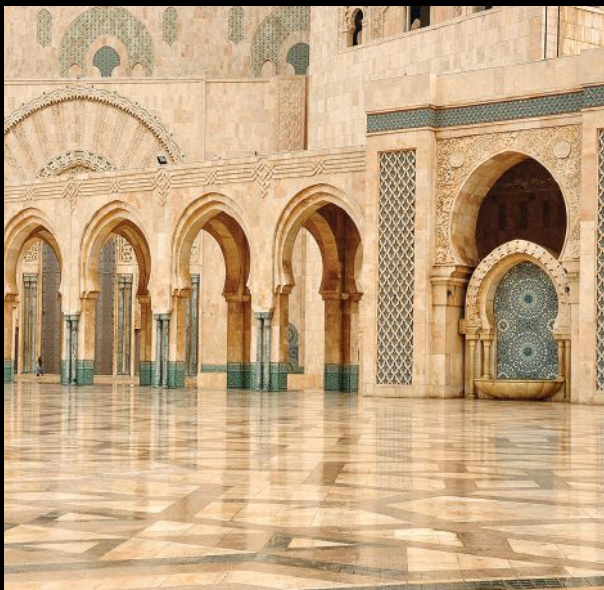
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The Line of Beauty

For someone who died at 25, Aubrey Beardsley left quite a mark. His fluid, unsettling compositions in black and white, all dating to six years in the 1890s, are the graphic analogue to Oscar Wilde's plays: unabashed expressions of the Aesthetic sensibility. That Beardsley worked in an architect's office before turning to illustration should be evident from the confident line and composition in drawings such as *The Dream* (1896, shown). The borderline-grotesque sensuality of the images, however, stems from Beardsley's own fertile imagination. The artist's first major show in 50 years is on view at Tate Britain in London through May 25.

> To see more examples of Aubrey Beardsley's fin-de-siècle draftsmanship, visit bit.ly/BeardsleyTate.



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A Desert Pioneer

Judith Chafee (1932–1998) had impeccable credentials, as a Yale School of Architecture alumna and employee of Edward Larrabee Barnes, Walter Gropius, Paul Rudolph, and Eero Saarinen, before opening her own office in Tucson, Ariz. Architect Annie Rockfellow (1866–1954) had established a formidable precedent for women in practice there, and in turn Chafee spent her time in the sun on experiments in Desert Modernism. The results, including the landmark Ramada House (1975, shown), appear in *Powerhouse: The Life and Work of Architect Judith Chafee* (Princeton Architectural Press), by Christopher Domin and Kathryn McGuire.

> For more images of Judith Chafee's work, visit bit.ly/JudithChafee.

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Lady of the Two Lands

Nefertari wasn't a reigning queen of Egypt, like Cleopatra and Hatshepsut. But as the favorite wife (among eight) of an obsessive builder, Pharaoh Ramesses II, she did inspire incredible art and architecture. There's the rock-cut Temple of Hathor and Nefertari (pictured) at Abu Simbel, as well as a gorgeous painted tomb in the Valley of the Queens. An exhibition about Nefertari, at the Nelson-Atkins Museum of Art in Kansas City, Mo., includes personal effects from the tomb, such as delicate woven-fiber sandals and a fine pair of knees—the only remnant of her mummy that archaeologists found. On view through March 29.

> For more information about the Nelson-Atkins's exhibition "Queen Nefertari: Eternal Egypt," go to bit.ly/NefertariExhibition.



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Best Practices: Rebounding From a Recession Layoff

TEXT BY ALICE LIAO

Being laid off can be devastating, but it can also be a catalyst for professional growth. Here, architects and designers who lost their jobs during the Great Recession offer advice on how to come out better on the other side.

Adjust Your Mindset

In the wake of losing a job, it's natural to panic. But take a breath, stay calm, and realize "the world is not over when you get laid off," says Derrick Fernandez, AIA, a Houston-based senior space planner and business application manager for HDR. A typical severance package can cover you for a few months, but to limit some money worries—at least temporarily—apply for unemployment. "This is a program you already paid into and it's meant for this circumstance, so take it," recommends Marissa Mead, AIA, director of art integration at Svigals + Partners, in New Haven, Conn.

Mead herself was laid off by S+P in 2010 and rehired five years later. She understands that layoffs can feel personal, but they're not. Staff

"What needs to be true so that 10 years from now I can look back and say, 'Losing my job was the best thing that ever happened to me?'"

— Marissa Mead, AIA, director of art integration, Svigals + Partners

reduction is a common reaction in a field notoriously vulnerable to economic downturns. You may feel resentment, but don't burn any bridges: The firm that let you go may want to hire you back when the market recovers, as in Mead's case.

Build Your Network

After being laid off from Charlotte, N.C., firm Shook Kelley in 2009, Ashley Clark, ASSOC. AIA—now a principal at local LandDesign, an architecture, landscape design, and engineering firm—worked a variety of part-time jobs outside of architecture. As a way to explore other career options, she scheduled meetings in her spare time—as many as three to four a week—which helped grow her network exponentially. "Every time I would go meet someone, they'd want to introduce me to two or three other people," she says. Clark's efforts paid off a year after being let go, when LandDesign hired her as a proposal coordinator, her first position on the marketing side of architecture.

Taking smaller gigs—such as rendering, field measuring, and documentation—is another way to cultivate new contacts. Mead worked at an architectural ornamentation design and fabrication studio so she could stay in the architecture game and maintain relationships with former co-workers who had started their own firms. She has since become "less shy" about freelancing: Before returning to S+P, she secured approval from firm leaders to continue some of this work.

Better Yourself

Layoffs aren't always associated with performance, but they can be viewed as an opportunity for self-improvement. Use the time to complete licensure or pursue continuing education to gain an edge when firms start hiring again.

If money is tight, don't be afraid to take a job unrelated to architecture, Clark says. A reliable source of income will reduce stress and may even provide valuable experience that can translate to architecture work. Mead rekindled her passion for sculpture and furniture design at New Haven, Conn.-based Kent Bloomer Studio, which hired her as a design associate. There, she contributed to the architectural ornamentation of the award-winning Slover Library, in Norfolk, Va. In addition to designing and managing projects, Mead and former Kent Bloomer Studio colleagues launched Atelier Cue, a design and fabrication studio that creates architectural public art projects.

At HDR, Fernandez travels frequently to work with international teams on a variety of projects—experiences inconceivable to him had he stayed at his former firm. "Being laid off really sent me in a direction to better myself to the point where I am now," he says.

With effort and strategizing, a layoff can be a blessing in disguise. Mead notes that it's important to ask yourself "What needs to be true so that 10 years from now I can look back and say, 'Losing my job was the best thing that ever happened to me?'"

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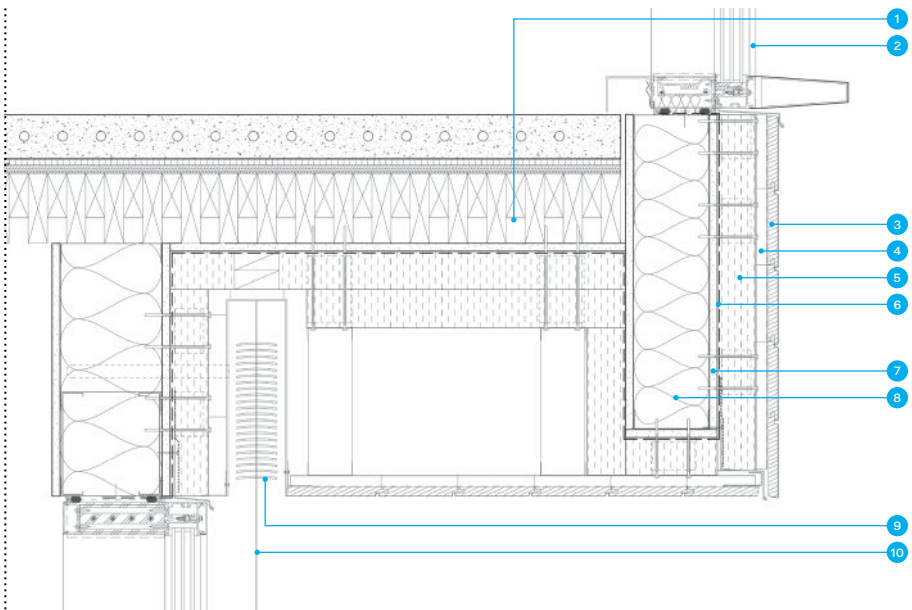
TEXT BY TIMOTHY A. SCHULER

To design what is anticipated to become the first Living Building in the Southeast, Seattle-based The Miller Hull Partnership and Atlanta-based Lord Aeck Sargent, a Katerra Company, looked to Atlanta's vernacular architecture. The resulting 47,000-square-foot Kendeda Building for Innovative Sustainable Design is a multifunctional learning hub and maker space for Georgia Tech.

The ambitious project was complicated by the building's north-south orientation, predetermined by its earmarked site. As a result, the two-story building has broad east and west façades. Ensuring that the high-performance goals remained attainable would require the designers "to keep the sun off the glass," says Miller Hull partner Brian Court, AIA.

On the expansive west elevation, a soaring solar canopy extends 40 feet to effectively create a shaded porch. The wall is alternately glazed and clad in either acetylated wood or corrugated aluminum siding. In the afternoon, automated aluminum sunshades controlled by a rooftop weather station form a continuous closed façade. Limiting air infiltration was also key to the project, says LAS director of sustainable design Joshua Gassman.

In the end, the passive design strategies are expected to reduce the Kendeda Building's energy use by 72%. But prioritizing performance resulted in no "compromise" to design, Court says. "I just see a better building."



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Year founded:

2016

Firm leadership:

Maxi Spina, INTL. ASSOC. AIA, Jia Yi Gu



Education:

Gu: B.A., University of California, San Diego; M.Arch., University of California, Los Angeles (UCLA); Ph.D. candidate, UCLA; *Spina*: B.Arch., National University of Rosario in Santa Fe, Argentina; M.Arch., Princeton University

Firm size:

To quote Outpost Office: "Never less than two."

How founders met:

At an architecture party in Los Angeles—we swear we also go to non-architecture events!

Origin of firm name:

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conventions of professional offices, but turned them into a one-name author. Our legal name is Eponymous Office.

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Favorite project:

Usually whatever we are currently working on. At the moment, it is the Piaggio House. We started talking with the owner about it in 2016, and it is the first project that helped us articulate an ongoing set of interests about neighborly houses. This house had a specific need for security grates, screens, and gates—the ubiquitous components that serve as the physical infrastructure of privacy and private space. We wanted to invert the purpose of such objects, so we proposed an architectural design that redefined the components of security into a form of social infrastructure.

Specifically, the design accentuates the layering of private and semi-private spaces through its recessed volumes,

spaces, and windows, and through the strategic delamination of security gates from glass walls. This allows the veranda on the ground floor to serve as a flexible space that transforms from a private enclosed patio to a semi-open sun deck with a floating gate.

Special item in your studio space:

Other people. We share our Chinatown space with other amazing firms and organizations, including Common Field, Materials & Applications (an exhibition space that Jia runs), Verbal Visual, and several independent practitioners.

Design trends that need to return:

Mirrored surfaces and color fields

Greatest challenge in running a successful practice:

Deciding if we should scale. We want to grow, but we don't want our everyday to be consumed by business.

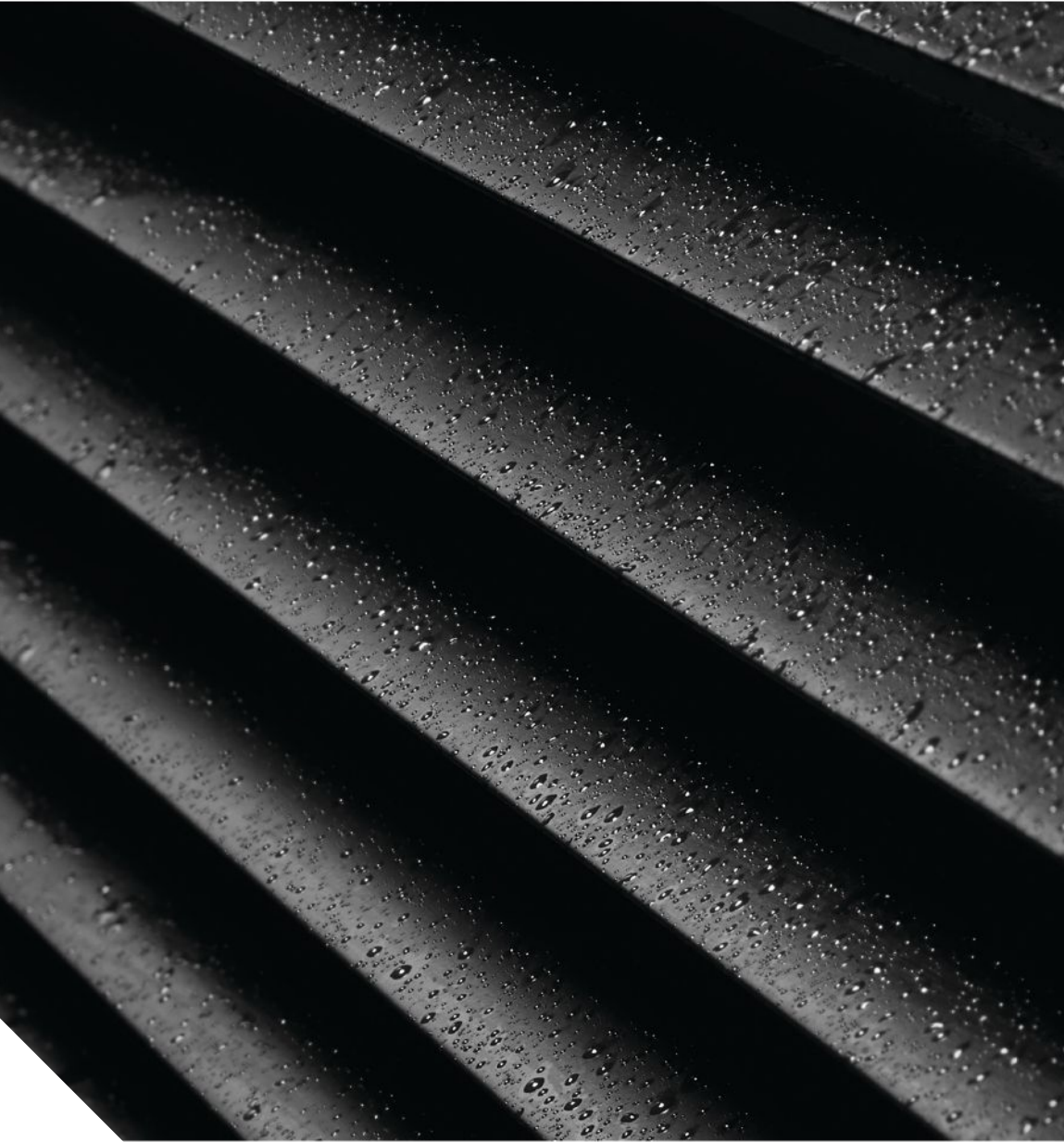
Essential morning routine:

Three shots of espresso (each)

Favorite city for architecture:

Gu: Berlin—I try to go every year. Some of the most interesting ideas come from there. Examples are experimental schools, like Making Futures, and citizen-activated urban policies. *Spina*: Shanghai—we go often to visit Jia's family. Beyond the incredible food, the city is a rich landscape of building typologies and spatial inventiveness that we will never see in the United States.

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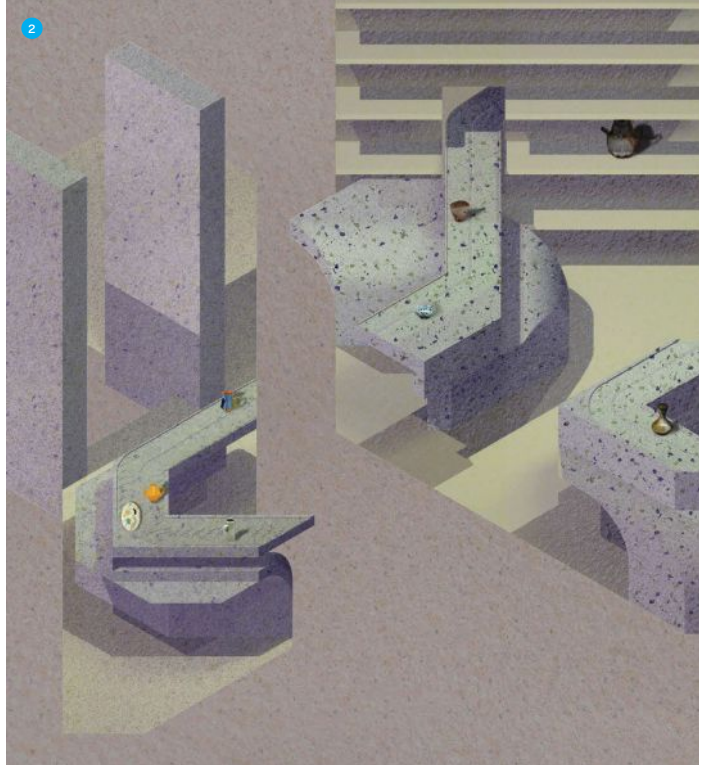


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**Next Progressives:
Spinagu**



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1. Designed in collaboration with Los Angeles–based urban planning and events company Community Arts Resources, ¡Momento! drew from the architectural history of Latin America and Los Angeles. The pop-up pavilion comprised four modular architectural blocks that offered seating, shelving, and shade for the Getty Foundation’s Pacific Standard Time: LA/LA Public Launch Party, in 2017.

2. This café proposal reimagines the conventional conveyor belt sushi infrastructure as a display area for a ceramics collection at the Everson Museum of Art in Syracuse, N.Y.

3. In a reinterpretation of a traditional garden folly, Spinaqu designed a semi-translucent polycarbonate volume to house plants.

4. Shown at the SCI-Arc gallery in Los Angeles in 2017, the “Thick” exhibition and research project explores “the peripheral role of material thickness within historic and contemporary processes of tooling and production,” according to the designers. Architectural fragments throughout the gallery offer visitors moments of reflection on the topic.

5. Located in Rosario, Argentina, the two-story, 2,150-square-foot Piaggio House offers ample privacy and security infrastructure that can be manipulated to enable indoor–outdoor living patios and courtyard access.

Products: Upcycled Interior Finishes

TEXT BY LINDSEY M. ROBERTS



Mateo, Designtex

Included in the collection of the Cooper Hewitt, Designtex's Loop to Loop yarn consists of 87% post-consumer and 12% pre-consumer recycled polyester. It's used in Mateo, which has a randomized dot-relief pattern. designtex.com



Lafayette, Ceilume

Offered with a new traditional pattern, these 24"-square vinyl wall and ceiling tiles contain up to 100% recycled material—including scrap plastic from Ceilume's own plant in Graton, Calif.—and are in turn recyclable. ceilume.com



Hex, Papertile

Montreal-based Papertile sources its primary raw material from the waste paper bins of local businesses. The 20cm-by-22.5cm hexagonal wall tile can feature almost any pattern and be made in any thickness. papertile.ca



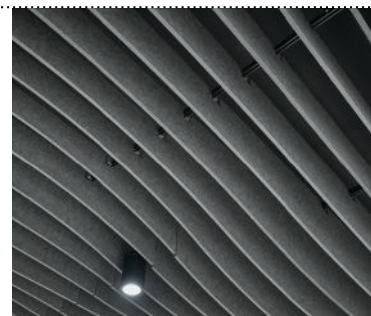
Recycled Kraft Laminate, Formica

Pulp, coffee bean chaff and bags, and peat moss dirt are behind the speckles in Formica's new recycled materials line. The natural or black matte surface comes in two grades: for countertops and cabinets, and for walls. formica.com



Magna, Walker Zanger

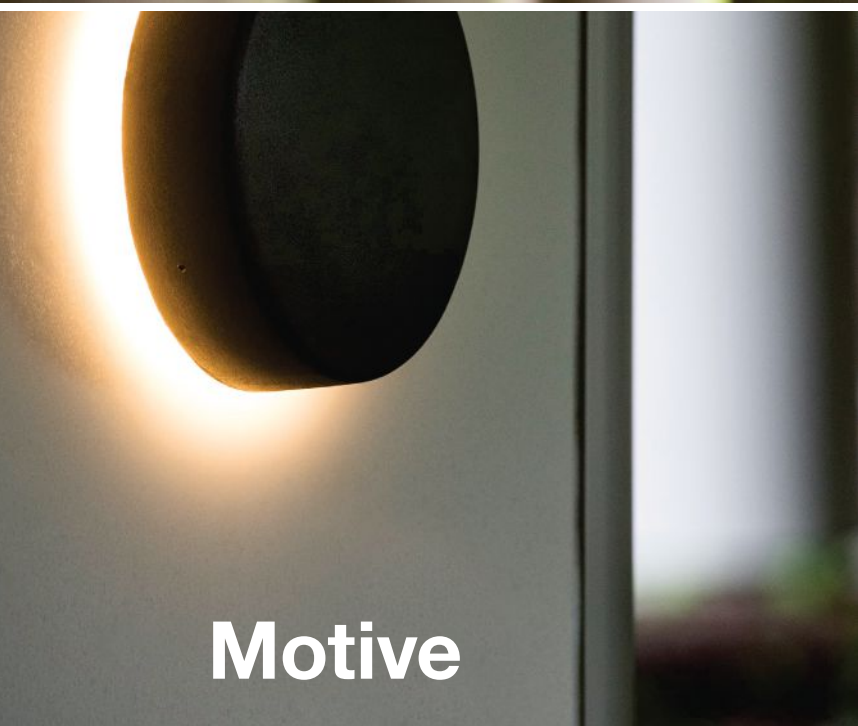
Recycled from industrial glass and bottles in Germany, this 2cm-thick surface is suitable for interiors and warm-weather exteriors. Available in several finishes and colors, it can also be backlit. walkerzanger.com



FeltWorks Blades, Armstrong Ceiling & Wall Solutions

Available in three patterns and 15 colors, these felt acoustical panels absorb up to 0.70 sabin per square foot and contain 50% post-consumer recycled PET fibers. armstrongceilings.com

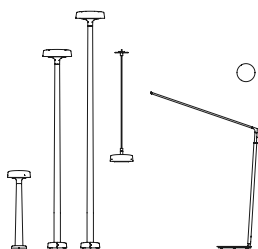
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Opinion: Only Equity Can Beget Equity

TEXT BY HARRIET HARRISS, ASSOC. AIA



The long workday of architecture has come to symbolize the industry's internal crucible of unrest, one that exposes the inequalities related to class, race, gender, sexual orientation, and age that continue to plague the profession.

From the perspective of a design practice eager to win work, uncertain market conditions, ongoing wage devaluation, and the rising cost of building materials—which can trigger value engineering and thus laborious redesigns—can too easily throw initial cost proposals into disarray. Rather than rip up the balance sheet, firms often rely on long hours and unpaid overtime to soak up the losses. Accordingly, job descriptions seeking individuals with “flexibility, commitment, and professional passion” become a proxy for consensual exploitation, and employee prospects for promotion become contingent on this form of self-evisceration.

For the talented, dedicated, and often debt-encumbered architecture graduate, resistance is futile. Schools are caught between ensuring students are capable of confronting inequality in the workplace and conditioning them to become complicit in it—or risk unemployment. The situation is even more acute for poorer students, who

are statistically more likely to be from minority households: The unpaid or low-paid internships frequently required for getting a foot in the door are simply beyond their reach. And for anyone contemplating a family, the choice is too often promotion or parenting, but not both.

Not all architecture practices are unscrupulous, of course, and the profession doesn't exist in a vacuum. The growing polarization of wealth requires discrimination on a grand scale, across all groups, industries, and places.

What a problem of this magnitude needs is people whose education is richly informed by different disciplines and epistemologies—from the historical to the economic, the cultural to the creative. It needs problem-solvers who are willing to experiment, who are able to work across different platforms, and who understand the interconnectivity and interdependency of people, place, politics, and power. As it happens, the people best meeting this job description are architects.

Architects adopt, appropriate, and hybridize multidisciplinary theories and practices. They can work at the macro- and micro-scale simultaneously with the confidence born of problem-solving in three dimensions. Rather than designing largely in the service of the 1%, they should take on the most significant and meaningful design challenge yet: designing out inequality both within and beyond the profession. The architects of tomorrow need more than technology;

they need tenacity to become outspoken advocates against injustice.

Today's most innovative and productive businesses are paving the way. For example, Microsoft Japan's recent conversion to a four-day workweek yielded a 40% increase in productivity—and a 20% decrease in its energy bill, to boot. Long work hours are not, in fact, essential to competitiveness.

A number of architecture schools, including mine, are collectively developing inclusive professional pedagogies. Our approach involves supporting student-led curriculum initiatives; providing spaces outside of studio for socializing, rest, and well-being; partnering students with communities and commercial practices; and offering opportunities to design buildings, as well as inclusive and equitable practices that the students would want to lead. For the savvy practice director, a creative, confident, and socially aware graduate with sound business acumen surely makes for a sound and attractive hire.

Affordable housing, climate change mitigation, safe infrastructure, and healthy workspaces are just a few of the design issues that matter—to everyone, regardless of context or identity. Yet, it is only when architecture is set free from its own internal inequalities that it will be able to play a more critical role in responding to these existential problems.

Harriet Harriss, ASSOC. AIA, is dean of the Pratt School of Architecture, in Brooklyn, N.Y.

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Architectural Lighting: Innovations for 2020 and Beyond

COMPILED BY MURRYE BERNARD, AIA

The tech sector rolls out discoveries and advancements on a seemingly daily schedule. The AEC sector implements those findings more slowly, as designers and manufacturers work to stay current, process complex new information, identify useful and remunerative applications, and test them in the real world.

To that end, six architectural and lighting designers share the developments that they consider invaluable to their own practices and that they see permeating the industry at large. Common themes include circadian lighting, additive manufacturing, and lighting controls.



Thurlow Small's interactive installation "Rain," in Washington, D.C.

Cristina Parreño Alonso
Founder, Cristina Parreño
Architecture, Boston

In his 1973 essay "On Constructing a Reality," cognitive scientist Heinz von Förster reminds us that "'out there' there is no light and no color, there are only electro-magnetic waves." Through experiments exploring how we can perceive things that don't exist, and how we sometimes cannot perceive things that do exist, Förster illustrates how our brains can take incomplete information and make it complete.

Synesthetic light technologies should have the biggest impact on architectural lighting design and the user experience. By converting one input sensation into a different kind

of output sensation—"smell-seeing" or "light-touching"—synesthetic light technologies in architecture could make the observer aware of an operation that is ingrained in our cognitive system at an unconscious level. (Composer Iannis Xenakis explored this notion in the music realm with his UPIC tool.) By stripping the viewer from the conventions of seeing, intentional light synesthesia can destabilize our perceptual ground, removing our anchor to the world but also freeing us from its limitations.

Sherry Lin, Ilva Dodaj, Phat Quach,
and AC Hickox
Senior design team, Domingo
Gonzalez Associates, New York
 We anticipate that lighting

manufacturers will continue their drive to increase efficacy in response to ever more stringent lighting power allowances, balanced with the need for glare mitigation and an improved user experience—in line with the emphasis on lighting quality, however it's defined.

We expect to see more sophisticated and intuitive lighting control systems in response to burgeoning interest in circadian rhythm interaction and natural light response. We would like to see more universal compatibility between systems and luminaires, but not at the cost of innovation.

"Made-to-order" form factor and photometric characteristics made possible by the 3D printing revolution might incorporate predictive

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**Architectural Lighting:
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maintenance—or, at least, end-of-useful-life indication—and, when no longer viable, offer full recyclability in a regenerative, cradle-to-cradle cycle.

Francis Krahe
Owner, Francis Krahe & Associates,
Los Angeles

Today, the power and impact of light are prominent, lighting components are less visible and more integrated with the architecture, and the boundary between lighting and media design is nebulous.

Five years from now, responsive lighting designs will be the norm. We see great opportunities to create spaces with interactive light, where its intensity, color, and movement respond to occupants or to programming, changing the use of any space. These options, available for many years at high cost, now bring creative programming within reach of any project. The intersection of advances in the color quality and range of LED chips, the lighting controls embedded within LED chip programming, wireless communications, and the Internet of Things will create the greatest change in the lighting design field.

Mikyoung Kim
Founding principal, Mikyoun Kim
Design, Boston

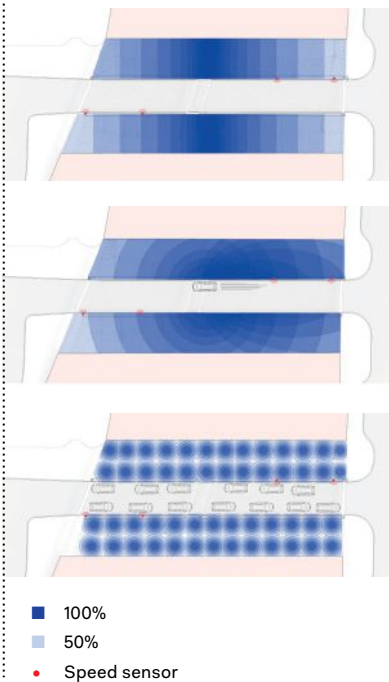
As our urban environments have become increasingly densified, meeting the needs of neighborhoods and individual residents is one of the most important challenges faced by designers. We are implementing a more efficient use of

energy with smart technologies that can manage a city's lighting needs in a surgical way rather than on wholesale grids that have traditionally shaped the way we move through cities. Ultimately, lighting innovations are about linking to data and the internet to reduce energy consumption. Meteorologically, our cities are under immense stress from storms, flooding, and increased volatility in the weather. These smart technology systems can help monitor changes so that urban lighting grids are more responsive, targeted, and efficient. These technologies can also help designers make cities safer, more efficient, and healthier for everyone.

Andrew Thurlow
Partner, Thurlow Small Architecture,
Oakland, Calif.

Lighting is emerging as not only a medium between physical and virtual experiences, but also as the cue that such relationships exist. Light has

The dynamic lighting of "Rain" is based on time of day and vehicular activity.



always expressed society's intention and priority of public space, first by providing safe passageway for pedestrians at night, and then by highlighting routes for automobiles. Now, the attention has returned to the exploration of pedestrianized public spaces made dark by lack of sun and lack of use. As cities are revitalized, spaces and infrastructure once abandoned can be reclaimed for play and social investment. What is essential is that these public spaces are defined not by institutions, but by individuals whose engagement and choices lead to impacts beyond the immediate and physical world, and into the networks of social media.

The next step from the physical definition of light is to a carbon-less version—where the energy generation from movement in and around the light translates into the expression of the experience itself.

Anita Summers, AIA
Principal, The Johnson Studio at
Cooper Carry, Atlanta

Tunable white lighting is becoming more affordable and easier to specify. We're using it at a high-end restaurant with an open kitchen: The chefs need clean, bright light, but the diners want a soft, dimly lit restaurant. We can adjust the color, brightness, and glare for each light source so that it works for both parties. Our design has been influenced by technologies that help us do our work better, like ElumTools, a plug-in that calculates light levels in Revit models.

In the 2020s, we'd like the opportunity to control lighting more on the fly, Amazon Alexa-style. Instead of just changing basic settings or dimming, voice commands might also change light intensity, color temperature, or beam shape. Restaurateurs could then set the lights based on whether diners are having breakfast in the morning or a scotch at the bar to end the night.

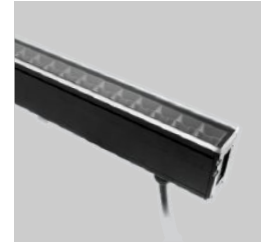
From a sustainability standpoint, we hope to see smarter lighting that reduces energy use based on the number of occupants and their location.



Exterior Linear



Archiline



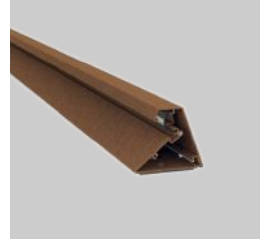
Paseo



Intake



Dirigo



Xenia



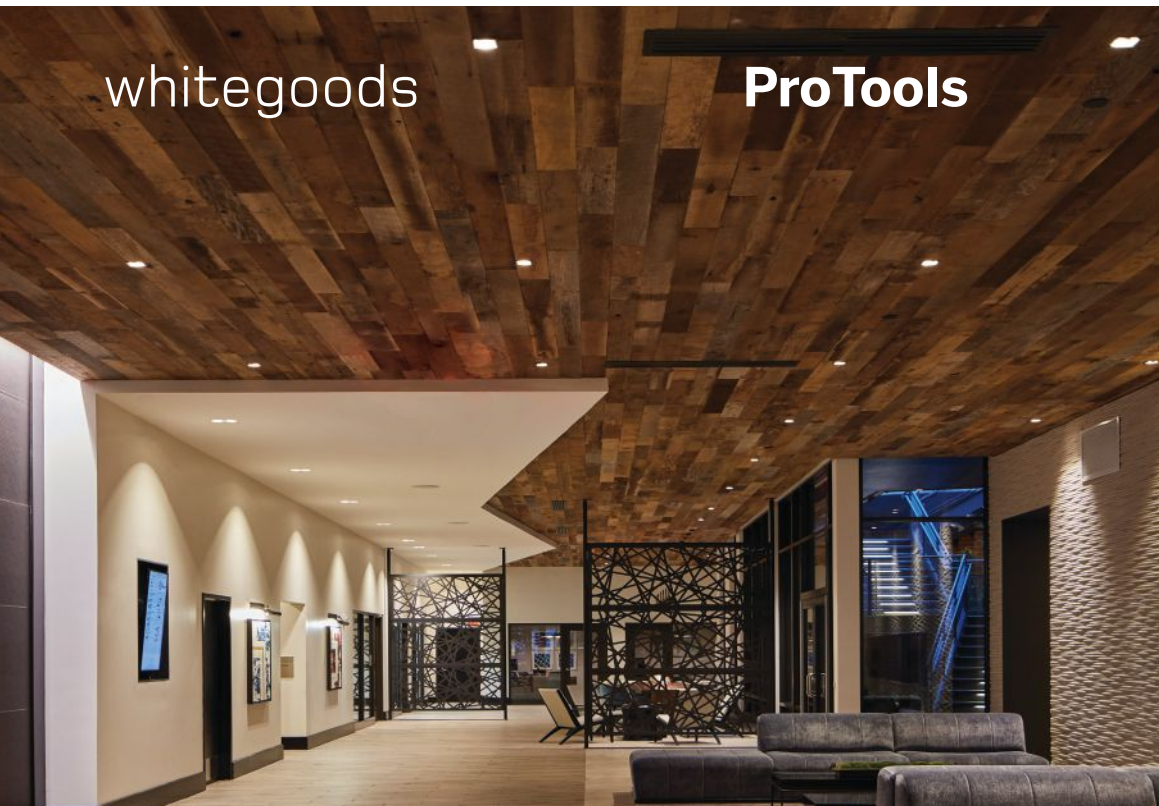
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Residential: David Baker Architects

TEXT BY EDWARD KEEGAN, AIA

San Francisco's Tenderloin District is not a place visitors typically go to see architecture. While technically part of the downtown area—and just steps from some tony shopping districts—the neighborhood hasn't seen the prosperity associated with the city's decades-long tech boom. "It still feels pretty rough," says David Baker, FAIA. But 222 Taylor, an eight-story, 126,000-square-foot affordable housing project designed by local firm David Baker Architects (DBA) might help change that feeling—especially for its residents, who include low-income and formerly homeless families and individuals.

The L-shaped structure holds the northeast corner of Taylor and Eddy Streets with 113 units that range in size from studios to three-bedrooms. The two wings with a double-loaded corridor define an interior courtyard at the northeast corner of the site. Ground-floor retail spaces with 15-foot ceiling heights house two long-established neighborhood businesses: a grocery store and a Yemeni restaurant.

The residential entrance is on Taylor, and from there, "it was important to have a direct view into the courtyard," Baker says, "but you want a little more shelter from such a tough street." Bike parking, a community room, laundry, and shared kitchen spaces are adjacent to the courtyard, which contains separate seating and play zones that provide varied social options for the building's community. A management suite houses comprehensive support services for



The aluminum window surrounds of 222 Taylor provide shading to help minimize energy consumption.

Project Credits

Project: 222 Taylor, San Francisco
Architect/Interior Designer: David Baker Architects, San Francisco · David Baker, FAIA, Daniel Simons, FAIA (principals); Katie Ackerly, AIA (associate, sustainability lead); Julie de Jesus, AIA (associate, interiors lead); Sally A.T. Roth, AIA (technical director); John Onken, AIA, Dawn Kang, AIA (architects); Akima Brackeen, ASSOC. AIA (designer)
MEP Engineer: Emerald City Engineers
Structural Engineer: OLM Consulting Engineers
Civil Engineer: Carlisle Macy
Construction Manager: Waypoint Consulting
General Contractor: Cahill Contractors
Landscape Architect: GLS Landscape|Architecture
Lighting Designer: HLB Lighting Design
Sustainability: Beyond Efficiency
Building Envelope: Aquatech Consultancy
Size: 126,000 square feet
Cost: \$52,756,215

> For materials and sources information for 222 Taylor, visit bit.ly/222Taylor.



Product: RLM Series - 924DL Downlights
Project: Milton City Hall - Milton, GA
Specifier: Cooper Carry, Smart Lighting
Photographer: Brian Gassel

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Residential:
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tenants, including two full-time social workers.

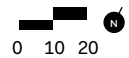
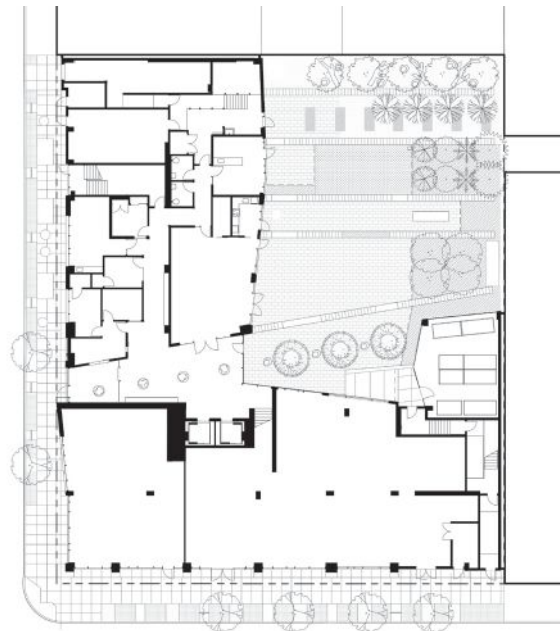
Designed to both “fit in” and “stand out,” the building’s masonry façade is composed of vertically oriented, thin clay brick. Masonry was important as a reference to earlier buildings in the neighborhood, but the architects thought of the multiple colors of $\frac{3}{8}$ -inch-thick face brick at 222 Taylor as being akin less to masonry construction, and more like the application of ceramic tile: “We were really using it like paint,” says DBA principal Daniel Simons, FAIA. This idea drove the deployment of the facing brick in vertical soldier courses. The ground floor is glass and concrete, so the material never actually touches the ground. The building’s massing is marked by asymmetrical notches at the sixth and seventh floors that align with historic neighboring cornices and provide dramatic articulation for the building’s two principal façades. “By cutting these slits, we created horizontal volumes that are proportionally similar to the horizontal volumes of the adjacent buildings,” Simons says.

The building is registered for both EnergyStar Multifamily High-Rise and LEED for Homes Mid-Rise. Achieving an EnergyStar rating (which was required for project financing) was a new wrinkle for DBA. It demanded commissioning, although the firm already advocates for this process as part of its sustainable strategy for other projects. “We spend a lot of time in San Francisco responding to air quality requirements that require

Typical Upper-Floor Plan



Ground-Floor Plan





Above: Recessed, cement-board-lined cuts in the façade reference the rooflines of the surrounding historic structures.

Left: The lobby features board-formed concrete walls and elevator surrounds made from HC Muddox unglazed brick.

Residential:
David Baker Architects

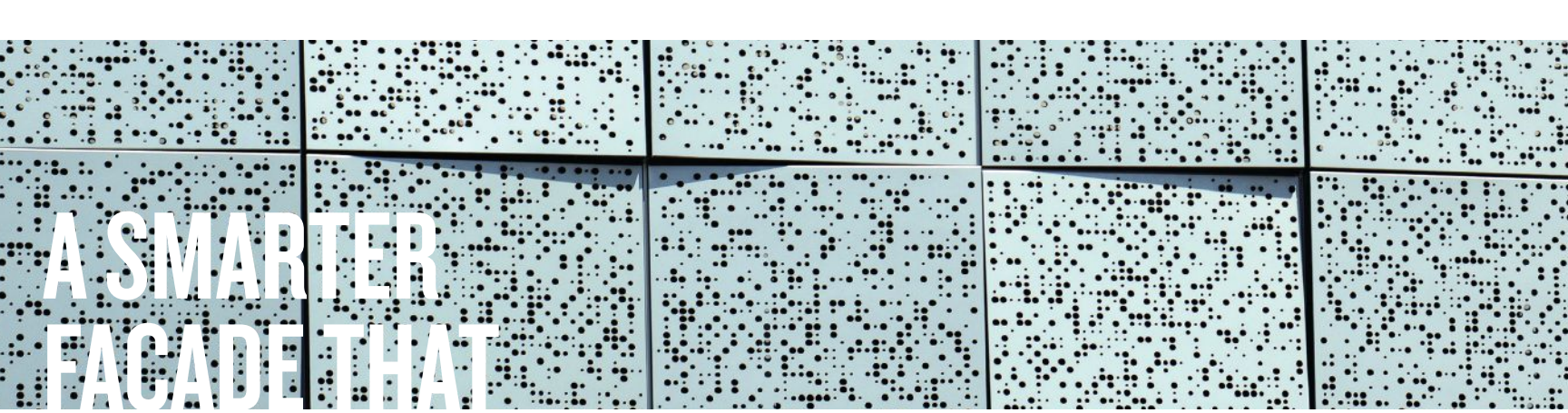
filtered fresh air to all the units," Baker says. "There's a balancing act, because fresh air increases ventilation rates that can increase heating and cooling loads." The architects adjusted window sizes and custom metal sunshade surrounds in response to their analysis.

The rooftop is a busy place, with solar domestic hot-water service, photovoltaic arrays providing electric power for the building, and an urban farm. The farm is a departure from similar ones the architects have designed in the past, where residents would grow vegetables for their own use. At 222 Taylor, "TNDC [Tenderloin Neighborhood Development Corporation, the client] partnered with an organization that manages that farm," Simons says. "They're growing a lot of food and it's a wonderful initiative for the clients," Baker says.

DBA's 222 Taylor walks a fine line in the Tenderloin, inserting itself firmly but quietly within the area's gritty context, raising design standards while still respecting the fabric that's given the area its identity for decades.



1. The courtyard (seen here from above) is accessible to all residents and features pavers from Basalite, Pavestone, Stepstone, and Wasau, and furniture by Hay. **2.** The living units range from studios to three-bedrooms, and feature Karndean vinyl composition tile plank floors, granite countertops, and views out through Peerless aluminum windows. **3.** The courtyard also features a play area lined with HG NXM synthetic turf from Heavenly Greens, where children can entertain themselves but still be in the sightline of parents who are using the communal laundry rooms or other facilities.

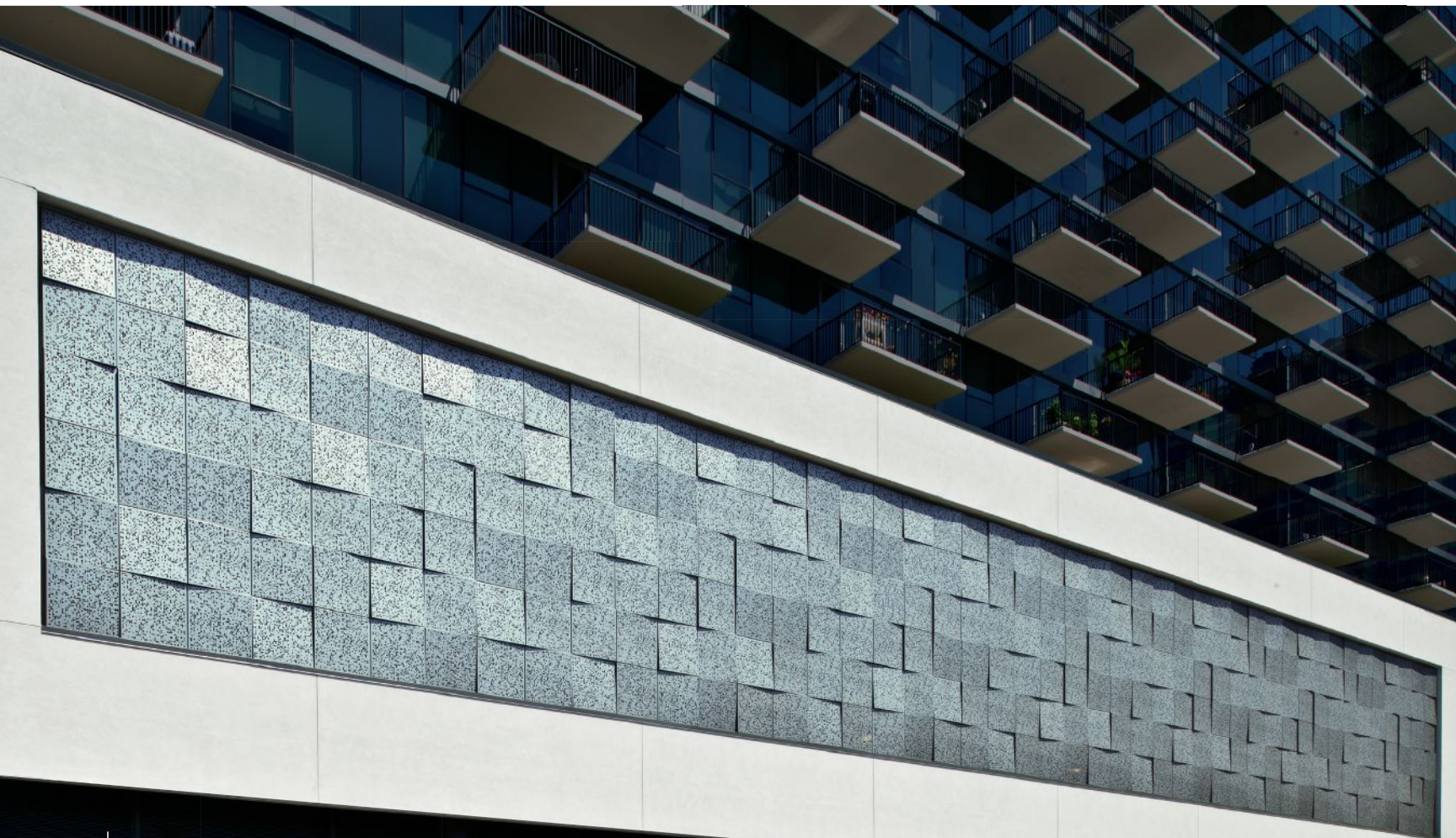


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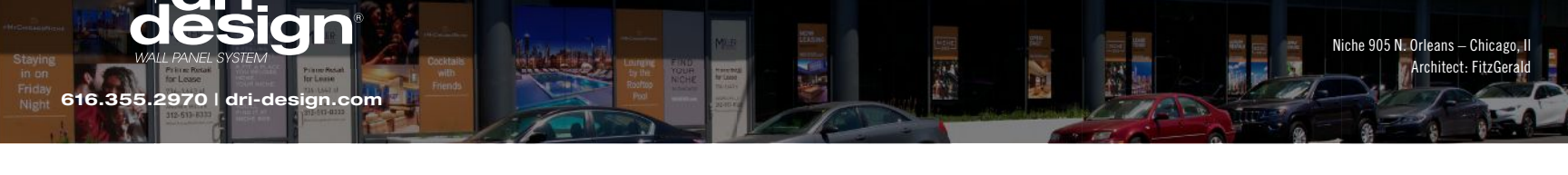
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Diamond Foods Innovation Center; Location: Salem, Oregon; Architect: ZGF Architects; Engineer: KPFF Structural Engineers

LEARNING OBJECTIVES

1. Explain how wood-frame systems can be used to achieve design objectives commonly associated with commercial structures, such as tall walls, flat roofs, parapets, and open-front floor plans.
2. Identify cost savings associated with Construction Types III and V compared to Types I and II, per the International Code Council's Building Valuation Data.
3. Discuss opportunities for achieving unlimited area for wood-frame commercial buildings under the International Building Code and implications of multi-tenant occupancies.
4. Review applications of wood-frame construction in low-rise commercial buildings, with an emphasis on restaurant, retail, and office occupancies.

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By Scott Breneman, PhD, SE, PE, WoodWorks

INTRODUCTION

When designing restaurants, stores, and low-rise offices, certain features come to mind as typical. These buildings tend to have large openings that allow plenty of daylight. Many have high ceilings and (by extension) tall walls, open floor plans, and the ability to reconfigure the interior as tenant needs change. They often include irregular shapes, such as architectural features that make a chain restaurant instantly recognizable in a row of strip mall stores. Many also have flat roofs and parapets that hide rooftop mechanical units.

Wood construction has the flexibility to meet all of these needs; wood can achieve the structural performance and quality objectives of even a large 'big box' store, cost-effectively, while providing a host of other advantages.

This course is intended for building designers who want to learn more about the use of wood framing systems in low-rise commercial projects. For many, the motivation will be cost. As this course illustrates, wood structures can cost significantly less than comparable buildings made

from other materials. Others are attracted to the idea of wood's versatility, ease of use, and adaptability, while others still appreciate its renewability, sustainability, and light carbon footprint. Depending on the application, aesthetics and the growing body of research supporting wood's biophilic qualities—i.e., the positive impact that exposed wood can have on a building's occupants—may be the biggest driver for its use.

Intended to provide practical information that can be applied to projects, the course begins with code-related topics, including cost implications of construction type, opportunities for achieving unlimited area, and implications

YARD HOUSE BAR & GRILL



Photos Courtesy of MBH Architects

Location: Chino Hills, California
Architect: MBH Architects
Engineer: Goodson Engineering

For this 6,500-square-foot restaurant, wood was used to span the dining room and create a cantilever over the outdoor patio. The trusses were left exposed, and redwood planking was used to cover the interior of the vaulted ceiling. Other wood products include dimension lumber stud framing for exterior walls, architectural grade Douglas-fir glulam beams, solid Douglas-fir posts (vertical truss posts), wood I-joists, plywood sheathing, cabinet-grade plywood (maple veneer), solid maple hardwood, and butcher block maple.

of multi-tenant occupancies. It provides an overview of wood wall and roof systems commonly used in commercial buildings, and highlights key design considerations. Examples of wood-frame buildings are highlighted, and a recent cost and environmental comparison of a big box store designed in wood versus steel is summarized. Code references refer to the 2015 International Building Code (IBC) unless otherwise noted.

CONSTRUCTION TYPE AND COST

Under the IBC, most low-rise commercial buildings fall under one of the following occupancy groups:

- Assembly (Group A-2): Nightclubs, restaurants, taverns, bars
- Business (Group B): Banks, barber and beauty shops, dry cleaning and laundries, professional services
- Mercantile (Group M): Department stores, drug stores, markets, motor fuel-dispensing facilities, retail or wholesale stores, sales rooms

For these (and other) occupancy groups, structural wood framing is permitted in

Construction Types IIIA, IIIB, IV, VA, and VB. The IBC specifies allowable height and area for each, and each has different requirements, largely related to fire protection. As shown in Figures 1–3, which highlight information from the International Code Council (ICC) Building Valuation Data, August 2015, the average cost for each construction type also varies widely.

Figure 2 highlights the difference in cost between two construction types commonly used for low-rise commercial buildings—Type IIA, which does not allow structural wood framing, and Type IIIA, which is typically wood-frame. Both have similar allowable heights and building limitations, but the average Type IIIA building costs \$16 to \$22 per square foot less.

In Figure 3, Type IIB Construction is compared to Type VA—also commonly wood frame—and shows an even larger savings of \$24 or more per square foot for the wood building. Allowable heights and areas remain similar, with exceptions that include greater height for Type VA Assembly and Mercantile occupancies, and greater height for Type IIB Education and Business occupancies.

Figure 1

Occupancy Group	CONSTRUCTION TYPE								
	IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
A-2 Assembly	177	172	166	160	150	147	155	136	132
B Business	182	176	170	162	148	142	155	129	124
C Mercantile	132	128	122	116	106	103	111	92	88

Published \$/Square Foot of Building Area

Structural Wood Framing Allowed

Figure 2

Occupancy Group	CONSTRUCTION TYPE		Difference
	IIA	IIIA	
A-2 Assembly	166	150	\$16/sf
B Business	170	148	\$22/sf
C Mercantile	122	106	\$16/sf

Published \$/Square Foot of Building Area

Figure 3

Occupancy Group	CONSTRUCTION TYPE		Difference
	IIB	VA	
A-2 Assembly	160	136	\$24/sf
B Business	162	129	\$33/sf
C Mercantile	116	92	\$22/sf

Published \$/Square Foot of Building Area

Source: ICC Building Valuation Data, August 2015



DIAMOND FOODS INNOVATION CENTER

Location: Salem, Oregon; Architect: ZGF Architects; Engineer: KPFF Structural Engineers

Designed to complement and expand an existing warehouse and shipping facility, this 7,350-square-foot office includes a partial second story and multiple double-height spaces. Walls are traditional wood-frame construction using 2-by-4 and 2-by-6 dimension lumber; the truss roof includes glulam and exposed structural tongue and groove decking; and the floors are comprised of wood I-joists with glulam in select areas. The facade is an innovative combination of Douglas-fir wood siding and heat-treated pine.

Photo Courtesy of Eckert & Eckert

HEIGHTS AND AREAS

One of the changes in the 2015 IBC compared to the 2012 version is a restructuring of the section on heights and areas. The equations are simpler, but there are more of them, along with more tables that are also larger and more complex. Among the specific changes there are separate tables for allowable heights (IBC Table 504.3) and allowable stories (IBC Table 504.4), with results based on occupancy classification, construction type, and whether the project is sprinklered.

Although Types IV and V may be more appropriate depending on the objectives of a project, architects interested in choosing wood structures should be aware that almost any low-rise commercial building can be designed in wood using the Type III designation. For common low-rise commercial and mixed-use occupancies (Assembly, Mercantile, Business, and Residential), Type II and Type III Construction in IBC 2012 and 2015 have equal building height and story limits.

OPPORTUNITIES FOR UNLIMITED AREA

To determine allowable height and area, many designers look to the IBC tables covering occupancy versus construction type (IBC Table 506.2) and use the equations to determine the tabulated limits for their buildings. Sometimes overlooked is the fact that commercial projects of Type III, IV, and V Construction—including Assembly, Education, Business, Factory, Mercantile, and Storage Occupancies—may

qualify for unlimited area in IBC Section 507. This is because of the open space that often surrounds commercial projects, such as parking lots and major roadways, which, in addition to sprinkler protection, increases safety by providing firefighting access to multiple sides of the building.

The typical baseline requirement is 60 feet or more of open space on all four sides. However, a project may still qualify for unlimited area if a portion of the building has as little as 40 feet of open space—if the exterior walls and openings on the side with the reduced frontage have a 3-hour fire-resistance rating.

Where a project includes multiple buildings that are less than 40 feet apart—such as a group of offices or retail stores—the IBC allows them to be considered as a single building for the purpose of determining whether unlimited area applies, providing they have 60 feet of open space around them, and provided they would all otherwise qualify for unlimited area.

Two-story buildings of Business, Factory, Mercantile, and Storage occupancies of any construction type can have unlimited area providing they have the required surrounding open space and are equipped with a National Fire Protection Association (NFPA) 13-compliant automatic sprinkler system (IBC Section 507.5). Additional allowances for Assembly occupancies related to unlimited area buildings can be found in IBC Sections 507.4 and 507.7.

GLOSSARY

Accessory Occupancies—as defined by the IBC Section 508.2, to qualify as an accessory occupancy, the area must comprise less than 10 percent of the story area and the IBC 506 “NS” allowable limit value

Finger-Jointed Lumber—also known as ‘end-jointed’ lumber is comprised of shorter sections of wood glued together into longer members

Glulam Framing—manufactured using small pieces of lumber that are glued together to make significantly larger beam and column elements

Hold-Down Systems—tie the end post to the foundation or framing below

I-Joist Roofs—comprised of top and bottom flanges, which resist bending, united with webs, which provide excellent shear resistance

Life-Cycle Assessment (LCA)—a systematic, analytic approach to assessing the environmental impact of products during the length of their life cycle

Separated Occupancies—require fire-rated assemblies between occupancies

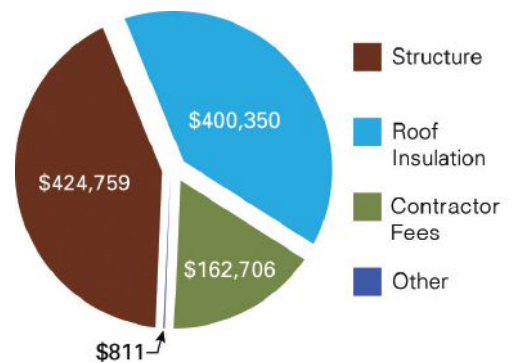
Shear Walls—have four main components or component systems—wall framing, sheathing, base anchorage, and end posts—which function both individually or together as a unit

Solid Sawed Dimension Lumber—commonly used for interior and exterior walls ranges in size from 2-by-4 and 2-by-12

Trusses—a structural framework that consists of rafters, posts, and struts, supporting a roof, bridge, or other structure

BIG BOX RETAIL: WOOD SAVES NEARLY \$1 MILLION

Cost and environmental studies compare wood to steel



To evaluate the opportunity for wood use in the commercial building subcategory known as big box retail, WoodWorks commissioned two studies—one cost comparison and one life-cycle assessment (LCA)—on the same big box project designed in steel versus wood.

Having received the drawings for a one-story, 54,800-square-foot steel-frame big box store in

California, WoodWorks commissioned the design of a comparable building using wood materials. Both buildings are designed according to the 2010 California Building Code, which is based on the IBC. The two designs share the same geometry, structural layout, and column grid. They also have the same gross floor area, floor plan, and layout.

According to the cost comparison, the wood building design saved an estimated 22 percent, or \$988,626, compared to the steel building design. The largest cost savings were associated with the structure and roof insulation. Structure cost savings associated with the wood design totaled approximately \$425,000. In order of highest to lowest savings, they were concentrated in roof framing beams, roof decking, roof framing columns, primary roof framing such as trusses and joists, and wall framing. Savings associated with roof insulation represented the largest single element savings (more than \$400,000) due to the cost difference between rigid insulation (steel design) and batt insulation (wood design).

The LCA study concluded that the impacts of the proposed wood building are lower than the steel building for all indicators except ozone depletion, where the proposed building results were 5 percent higher. Impacts were analyzed from raw materials through demolition/disposal and also with the additional stage of recovery/reuse/recycling. Highlights through demolition/disposal include:

- Global warming potential: Wood building saves 642 metric tonnes of carbon dioxide equivalent (CO₂e).
- Nonrenewable energy use: Wood building saves 9,116 gigajoules (GJ).
- Raw material supply and manufacturing: Wood building has an average of 30 percent less impact across all indicators.
- End-of-life transport: Wood building has 11 percent less impact across all indicators.

Adding the recovery/reuse/recycle stage had minor effects on the overall comparison between the wood and steel buildings. As with the analysis excluding this stage, the wood building outperforms the steel building overall and for all indicators except ozone depletion potential, where the proposed building results were slightly higher.

Detailed information on these studies is available in the WoodWorks report, which includes a section on opportunities for big box wood design.¹

QUIZ

- Under the IBC, Type IIB buildings, which don't allow wood framing, and Type VA buildings, which are typically wood-frame, have similar allowable heights and areas but what average difference in cost?
 - The average Type IIB (non-wood) building costs \$16 per square foot more
 - The average Type VA (wood) building shows a savings of \$24 or more per square foot less
 - The average cost for Type VA and Type IIB buildings is the same
 - It is impossible to estimate the average cost of Type VA and Type IIB buildings
- In addition to automatic sprinklers, what characteristic of a commercial building may allow it to qualify for unlimited area under the IBC?
 - Three stories or more
 - Podium design
 - Open space, such as a parking lot or major roadway
 - More than 20 windows
- According to a cost comparison of a 'big box' store designed in wood versus steel, what were the estimated cost savings?
 - The wood design and steel design were comparable
 - The wood design saved \$544,323
 - The wood design saved \$988,626
 - The steel design saved \$350,339
- Which of the following advantages of wood stud walls are also advantages of wood-frame tall walls?
 - They're able to resist snow loads on the roof and wind loads on the wall, without requiring an additional load-bearing frame
 - They can be easily insulated to provide excellent thermal resistance
 - They can be easily modified to adapt to changing tenant/owner needs
 - All of the above
- Although Types IV and V may be more appropriate depending on the objectives of a project, architects interested in choosing wood structures should be aware that almost any low-rise commercial building can be designed in wood using the _____ designation.
 - Type III
 - Type XI
 - Type I
 - None of the above
- According to the LCA study referenced in the course, wood building saves ____ metric tonnes of carbon dioxide equivalent (CO₂e).
 - 534
 - 120
 - 642
 - 800
- According to the course, _____ is the primary driver of wall height.
 - Wall strength
 - Ceiling height
 - Need of the room function
 - Aesthetics
- Lumber comprised of shorter sections of wood glued together into longer members is the definition of:
 - Finger-jointed lumber
 - End-jointed lumber
 - Lumber woven wood
 - Both A & B
- For large, flat roof applications, unlimited areas can be achieved under IBC Section _____.
 - 101
 - 202
 - 507
 - 809
- Parapets, a common feature of many flat roofs, include which of the following framing options:
 - Tall stud parapets
 - Built-up parapets
 - Truss parapets
 - All of the above

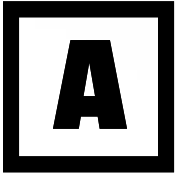
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This article continues on <http://go.hw.net/AR022020-1>. Go online to read the rest of the CEU course, complete the corresponding quiz for credit, and receive your certificate of completion.

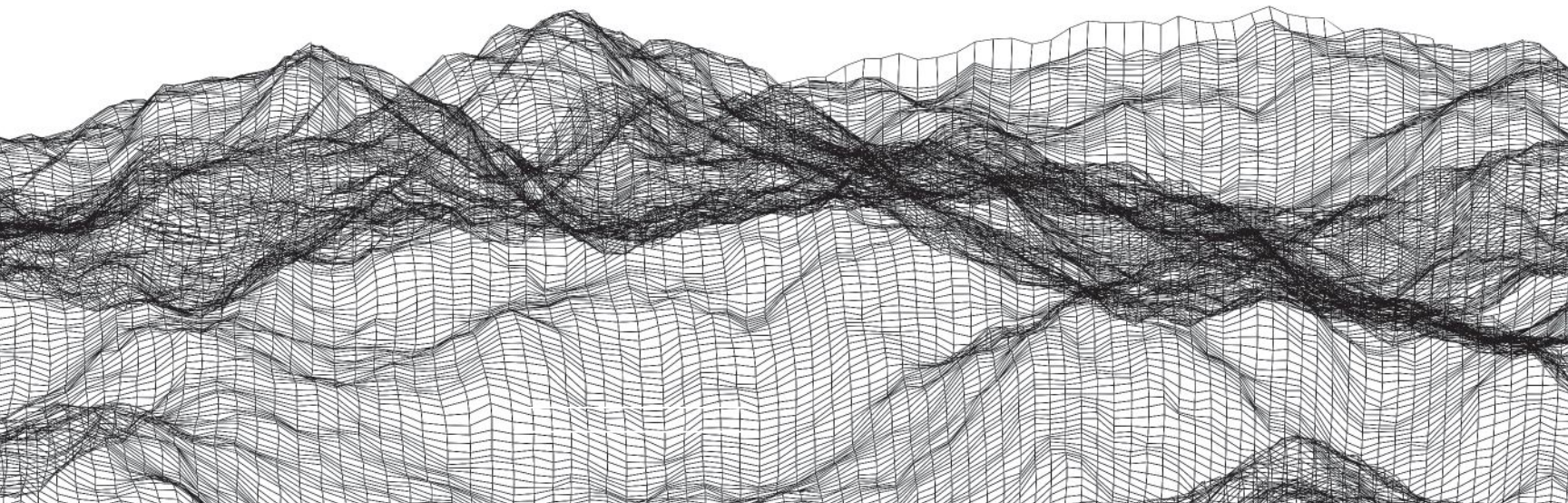


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CREDIT: COLIN ELY

Creating the Big Picture

When it comes to governance, architects have a unique perspective.

What do architecture and statesmanship have in common? More than you might think. Tim Kearney, AIA, who serves Pennsylvania's 26th Senatorial District as state senator, is a practicing architect of over 30 years. He served on the Swarthmore Borough Planning Commission before being elected mayor of the city of Swarthmore, and has served in the Pennsylvania State Senate since 2019. He advocates for environmental protection and sustainability practices, fair and equitable policing, public education, and LGBTQ+ equality. Kearney will share his experience and expertise on the Mayor's Panel at AIA's 2020 Grassroots Leadership Conference.

As told to Katherine Flynn

Looking back on my career, I was fortunate enough to be with Venturi, Scott Brown and Associates for 16 years after graduate school. Up until that point, [my wife] Claudia and I had different work assignments and experiences. When we had a family, [the firm] hired Claudia to oversee interiors projects. In those days, I was working 70-hour weeks, so it was helpful that Claudia was able to work part-time to oversee and be involved in projects across the firm, and balance home and child needs. Being in a firm with a world-class architect like Denise Scott Brown, HON. FAIA, who was also a mother, paved the way for our family to balance home with the incredible demands of building two successful architecture careers.

While at VSBA, we moved from Philadelphia to Swarthmore and a few years later, in 2004, we started a small firm, which has grown into a five-person shop located in downtown Swarthmore. We wanted a sense of community with strong schools, walkability, and green space. When we moved, we immediately got involved in local pro bono projects. These projects led to involvement with the local planning commission, at which

point I was asked to run for mayor. The town was undergoing some changes, and it felt timely for someone with my design experience coupled with my ability to build consensus across diverse stakeholders. I decided to run, and I won.

On the heels of my work as mayor I was approached about running for state senate by my local representative Leanne Krueger. I kind of laughed it off. [Eventually] Claudia and I discussed it seriously. We knew I was a long shot, but I felt compelled to make a run. The seat I was running for had been held by a Republican for the last 150 years, with one exception: one four-year term following Watergate. I ran and won the seat by a wide margin.

Since I'm the only architect in the Pennsylvania Senate, you might think architecture doesn't lend itself to legislative discussions. In fact, my professional training and knowledge is extremely helpful. My approach to architecture has been key to my early success in the legislature. The ability to sweat the details while never losing sight of the big picture is unique to architects, and it really does make a difference. **AIA**

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AIA Now



CREDIT: ELIZABETH FELICELLA

The ARO-designed Brooklyn Bridge Park Boathouse connects the waterfront and a neighboring green space.

Human-Centered Design

AIA's 2020 Firm Award winner boasts a reputation for elegant, imaginative architecture that considers the user.

By Katherine Flynn

New York's Architecture Research Office (ARO) is renowned for design that is both humanistic and analytical, and it is this unusual combination that won the firm the 2020 AIA Architecture Firm Award. Led by principals Stephen Cassell, AIA, Kim Yao, AIA, and Adam Yarinsky, FAIA, ARO has been as much laboratory as design practice since its founding in 1993.

"Over the last 25 years, ARO has earned a reputation for elegant, imaginative

architecture born out of relentless exploration and engagement," wrote Paul Mankins, FAIA, and Douglas A. Benson, FAIA, co-chairs of the AIA Committee on Design Nominating Committee.

Working in a variety of scales and contexts, ARO has created a number of buildings for university campuses across the United States, as well as public buildings and religious structures. One of the firm's recent projects is a new home for New York City's Congregation Beit Simchat Torah, which boasts the world's largest LGBTQ+ synagogue congregation and champions gay rights. ARO worked closely with more than 100 congregants and a handful of religious scholars for more than four years. Ultimately, they identified a Cass Gilbert-designed building in Midtown Manhattan for adaptive reuse. ARO's design encompasses 50 feet of storefront, incorporating lit signage with vertical gold pinstripes and lavender glass. It's an ideal space for a modern

institution set inside a landmark setting. Another large-scale cultural project, a new home for Houston's Rothko Chapel, will improve the lighting in the chapel as well as upgrade interior acoustics, address aesthetic differences between the wall and ceiling, and update weatherproofing and security systems. An adjacent new structure will accommodate guest services, conferences, meetings, administrative spaces, and guest housing for visiting artists and scholars.

ARO has earned six AIA Honor Awards, the Cooper Hewitt National Design Award for Architecture, and the Academy Award for Architecture from the American Academy of Arts and Letters.

"Through the emphatic presence of their work, [ARO embodies] the ideals, possibilities, and values required of our profession to better the built environment," wrote Marlon Blackwell, FAIA, in his letter supporting the firm's nomination. **AIA**

AIA Feature



CREDIT: TERREFORM

Michael Sorkin Studio's Greenfill: House as Garden model incorporates individual units augmented by shared spaces, and ideally, space for communal gardens.

A Seat at the Table

To design affordable housing in African American neighborhoods, architects navigate class, race, identity, and community in a privatized system. But can things get better?

By Zach Mortice

Early in the development of the Ruth Ellis Clairmont Center in Detroit, an LGBTQ+ affordable housing and outreach center that focuses on young people of color, Jack Schroeder, AIA, of Landon Bone Baker (LBB) knew there would be an arts component to the mostly residential project, but he wasn't quite clear on what form it would take.

During these conversations, people kept talking about “balls.” “Debutante balls?” he wondered. Not quite. Instead, the community needed a space to prepare for and mount exhibitions that are fashion shows with elements of dance, where participants design and tailor their own clothes, and strut a runway in them. Emanating out of the minority LGBTQ+ community of New York City and documented by the 1991 movie *Paris is Burning*, these balls are radically creative expressions of identity and sexuality from an intensely marginalized people. “It was totally new to me,” says Schroeder. “It’s kind of amazing.”

So, the building LBB designed featured a large ground-floor town hall and lobby area, generous enough to work as a gathering and event space. There’s an in-house salon for balls (and job training), as well as an art and dance studio on the fourth floor.

Community members at the Ruth Ellis Clairmont Center understand that the wider neighborhood might not feel the same way about showcasing non-heteronormative identities as they do, and as such, the balls are often presented as private events for the community, and that has specific architectural requirements. The town hall is two stories tall, with a second-floor interior residential hall partially visible through the lobby. Here, the glass is treated with an opaque glazing from the bottom to top, making only silhouettes visible. The Ruth Ellis Clairmont Center wanted to broadcast activity and vitality, but

perhaps not who was wearing what on their way to the runway, or their apartment. To obscure the identity of a taller trans woman in heels, for example, this section of glass “can’t be 5 foot 6 inches,” says Schroeder—it needs to be taller.

It’s one granular detail that addresses client and context with simple architectonic solutions, and its apparent novelty speaks to the extent to which these clients have been boxed out of development and investment cycles by racism and homophobia. It’s also a reminder that architects, especially when working with marginalized people, need to ask questions, listen, and push themselves beyond their own lived experiences in order to help grow communities organically, with deference to existing institutions, formal and informal. Developed by Full Circle Communities, the project will cost approximately \$15 million and will provide 35 housing units.

The key community units at the Ruth Ellis Clairmont Center are what’s called “families of choice,” and they inform nearly every element of the facility’s architecture. One of the main goals of the project, to begin construction in the spring, is to address the incredible amount of housing insecurity LGBTQ+ youth face. (A recent University of Chicago study found that they’re more than twice as likely to be homeless as non-LGBTQ+ peers). The building will target people ages 18–25, most of whom will require a documented history of homelessness to get to move in; their rent will be deeply subsidized by tax credits. These

“families of choice” are peer-based networks of support that step in when youth are estranged from their nuclear and extended families. “It’s literally a structured family, and the alliances within that family [are] intensely strong and fierce, also highly emotional and volatile, like any real family,” says Jerry Peterson, the center’s executive director. “You literally have aunts, mothers, grandmas, and uncles. If they have a space, they’re going to bring in 5–6 people from their family, and they’re going to get evicted.”

The project’s funding structures didn’t allow for purely communal living. So LBB designed small units with a just a few key shared community spaces, like the second-floor kitchen and community room, and the third-floor fitness area and lounge. The ground floor will also contain a health clinic, as well as a full commercial kitchen and entrepreneurship center, for job training programs.

Given the epidemic levels of violence that LGBTQ+ communities see, ensuring security was one of Schroeder’s primary design problems. (Nearly half of bisexual women have been raped, and 53% of transgender African Americans have been sexually assaulted, according to the Human Rights Campaign.)

The main entrance of the building is located as close to the street and public transit as possible, and circulation patterns allow for a series of security checkpoints and visual connection to the entries. From the main entrance, residents can immediately split off and access secure residential floors separately,

AIA Feature

CONTINUED



The KLEO Art Residences, on Chicago's South Side, received 1,000 applications for 58 units when upon opening in September 2019.

away from more public functions on the ground floor. These considerations are a necessity, says Brandi Smith, a trans woman of color who grew up with the program as a teenager, and now works at Ruth Ellis Clairmont Center. People in her community “don’t have a safe haven to go if they have to do survival sex work,” she says. Fewer steps to a door that locks could save the lives of “girls that may have to run from a john.”

These aren’t concerns most architecture clients worry about, and it was an adjustment for Schroeder and his team. “There are moments where we haven’t gotten there along the way, and they’ve let us know, ‘That still doesn’t feel right,’ and after the fourth [or] fifth iteration, we’re getting to a point where it feels safe, but still open.”

For an anecdotal, but still typical, illustration of the need for affordable housing in African American neighborhoods, consider that developer Torrey Barrett received 1,000 applications for the 58 units at his KLEO Art Residences on Chicago’s South Side. Eighty percent of the units are subsidized, targeted to Chicagoans making 60% of the area median income, and they drew applicants from across

the city, even the affluent North Side. Opened in September, the residences are an offshoot of founder Barrett’s KLEO Community Family Life Center, which focuses on anti-violence and education work. Its goal is to “eradicate violence by bringing opportunity to a population that’s less fortunate,” Barrett says.

Marketed to creative people (and developed by Brinshore), Barrett estimates that more than half of KLEO’s residents work in the arts. David Anthony Geary, a painter and muralist, was one of the lucky ones. Getting an apartment ended more than a year of couch-surfing and sleeping in his studio. “This made it possible to be able to keep my studio,” he says. “I couldn’t let go of my studio, because that’s my primary source of income.” His new apartment building also gave him a project. He painted a mural in the lobby depicting five inspirational South Side women who work in the arts, each in a neon hue.

The making and exhibition of art informs much of the building’s design, by local firm JGMA. Each floor is color coded, with elevator lobby furniture and art by local artists. (One photo collage posits legends of black liberation as 1980s-hip-hop b-boys: James Baldwin in an

Adidas tracksuit, Frederick Douglas in Nikes). There are three ground-floor studios for artists, with plywood walls and glass garage doors. “It’s meant to be [a] street market, where you can put your art [outside] and sell it, and make the building more permeable,” says JGMA founder and president Juan Moreno, AIA.

Moreno hopes the crush of people from all over the city vying to get into KLEO might erode Chicago’s entrenched segregation a bit, but understands it’s also indicative of how little affordable housing there is. How much agency do architects really have to change this? “The truthful answer is, I don’t know,” says Moreno. “It’s such a complex and difficult question. As a designer, what I hope is that the buildings become an extension of what’s already there.”

Art, as a signifier of cultural ownership and history, is similarly the focus of Midtown Public Square in Seattle, a mixed-income residential development that will offer 428 units, 30% of which will be affordable, targeted at residents making 60% to 80% of the area median income. These subsidies are financed by tax exemptions that incentivize

the development of affordable housing, deployed in the Central District neighborhood that's been subject to severe gentrification and displacement. In the 1960s and '70s, the Central District was more than 70% African American. Since then, tech money has flooded the entire city, pushing African Americans out, and today the Central District is less than 20% black.

The building is being developed by Lake Union Partners, which primarily focuses on market-rate housing, and designed by the Seattle-based Weinstein A+U. They've taken a strong interest in the Central District and have completed several projects in the area. Covering 4 acres and centered on the intersection of 23rd and Union, the projects are located at the historic heart of Seattle's African American community, near where the first black-owned bank in the Pacific Northwest was founded.

Patrick Foley of Lake Union Partners says the question that guided this project was: "What little part can we do to help restore some of that lost culture?"

The answer has been to commission a building that best represents the community. Determining the best ways to curate and present this art took many rounds of sensitive community feedback. "There was a recognition early on that an all-white design team, even if we did our best to understand the community and respond thoughtfully, might be missing critical insight, [and] we weren't going to be carrying much weight with the community," says Weinstein A+U's Davila Parker-Garcia, the building's architect.

So her firm brought in African American architect Rico Quirindongo, AIA, of Seattle's DLR Group to make sure the public had a conduit to the design team they felt comfortable with, and could advocate for their interests. "The community wanted to ensure that, while this property is being privately developed, it was a place [where] the public and the African American community would still have a seat at that table," he says.

As such, much of the feedback the architects got from the public was focused on making its quasi-public spaces, like its courtyard, as public as possible, and accessible beyond residents of the building. "There was a worry that if the neighborhood wasn't really allowed to stake a significant claim on that space, it could eventually just get gated off," Parker-Garcia says.

Public art is used as a signpost to welcome people into the space, which will be filled with small black-owned businesses that get a discount on rent. Throughout, lighting installations and murals will beckon visitors into the courtyard. One series of murals will feature interpretative takes on "faces of the

community," stretched across five stories, says Quirindongo. "[That was] in response to the community saying they wanted to literally see themselves on this project."

After initially purchasing a larger parcel for Midtown Public Square, Lake Union Partners sold 20% of the site to the Central District's minority-owned Africatown Community Land Trust to develop more affordable housing, but that project still has not broken ground, though Midtown Public Square is already under construction. "The minority development immediately adjacent, which is one-fifth its size, only recently received funding, which puts it two years behind the development of the rest of the block. There is not parity, and it doesn't speak well to how development is happening in the neighborhood."

It's a disparity that's prompted him to ask: "What is the percentage of affordable units that should be a part of these developments? What is the public role in evaluation of projects? What's the push-pull between public input and private developers being able to do what they need to get the value that they're looking for? It's a delicate balance."

For Lake Union Partners, Foley says that few local developers or nonprofits make the sorts of voluntary commitments to affordability and cultural history that his firm is making. "We're taking concrete steps to welcome people back to the neighborhood who left 10, 20, 30 years ago," he says.

But there's no reason to believe the hundreds of new market-rate units his company has brought online won't further gentrify the area.

And that's the contradiction that architects like Quirindongo face when trying to design and build affordable housing. They're obligated to represent the community, but with the widespread and ongoing privatization of public housing, the community is not the ultimate client. "It's not an easy thing to say 'The community would like more open space,' because open space does not necessarily create more cashflow for a developer," says Kimberly Dowdell, AIA, 2019-2020 National Organization of Minority Architects (NOMA) president. Dowdell says successfully building affordable housing requires "tri-sector collaboration": a public mandate, private money, and nonprofit administration and services. "In the current system, architects have agency to articulate solutions that a developer could take or not take," she says. "We don't want to see anyone get displaced, but unfortunately that's the reality of the situation. The question becomes: How can we deploy tri-sector problem-solving to close those gaps as much as we can?"

For grassroots activists on the ground,

that's not good enough. Naomi Davis, founder of Blacks in Green, a sustainable community development nonprofit on Chicago's South Side, decries how privatized development of affordable housing and the tax credit system hands responsibility to private companies. "That's not working for black people," she says.

One particular way the current system of affordable housing development fails marginalized communities, she says, is by focusing almost exclusively on rentals at the expense of ownership. "Black people need to own their own communities," she says. "We're here to build black wealth, period. If the federal government is paying \$5,100 a month to rent an apartment, they could pay \$5,100 dollars a month to pay a mortgage."

Davis is working towards remedying this wealth gap in her own community of Woodlawn, which is subject to rising gentrification pressure as the completion of the Obama Presidential Center looms on the horizon. She's been working with Michael Sorkin on his Greenfill: House as Garden model of infill housing. Davis intends to refine this model into an owner-occupied four-flat apartment building with three renters. Made from mass timber, and with deep setbacks for daylighting, Greenfill: House as Garden addresses wealth inequalities and resilience in the face of a climate change crisis that will imperil America's most marginalized and vulnerable citizens first, namely Davis's neighbors. It would offer a "homesteading" program, she says; orchards, vegetable gardens, and root cellars, "because we believe we are heading into a firestorm. We believe that there's going to be a time when the truck don't come." For many African Americans, especially those struggling to find affordable housing, these kinds of structural deprivations are already here, and will increase as climate change destabilizes everything. For example, at least 14% of public housing units will be inundated and destroyed by climate change before the century is over, according to the Urban Institute and the Furman Center. The question at hand is how prepared our current system of housing development, with its compromises and diffused accountability, is to handle that.

And many architects working in affordable housing don't think we can deal with today's housing crisis—let alone tomorrow's—in the current policy regime. One potential solution is the Green New Deal, whose proponents have seized on housing as a key lever, just as New Dealers did generations before. "I think that means there is a direct investment in housing by various levels of government, as it used to be," Sorkin says. "A sensitive government working with good architects could definitely pull it off. We could do it." **AIA**

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CREDIT: MATT CHINWORTH

“Weather Whiplash” Could Impact Your Projects

By Katy Tomasulo

Much of the conversation around climate change centers on extreme events—longer, more intense droughts; higher temperatures; intensive hurricanes. But another phenomenon is catching the attention of scientists, as well as the building industry: “Weather whiplash” is the more sudden shift in extremes of temperature and precipitation.

“These wild swings from one weather extreme to another are symptomatic of a phenomenon, variously known as ‘climate whiplash’ or ‘weather whiplash,’ that scientists say is likely to increase as the world warms,” wrote Jim Robbins in *Yale Environment 360* last November. “The intensity of wildfires these days in places like California are a symptom of climate change, experts say, but the whiplash effect poses a different set of problems for humans and natural systems. Researchers project that by the end of this

century, the frequency of these abrupt transitions between wet and dry will increase by 25% in Northern California and as much as double in Southern California if greenhouse gases continue to increase.”

And just as extreme weather events threaten the resilience of the built environment, so does weather whiplash, in both similar and unique ways. The threat is one that experts say architects need to be thinking about to ensure the durability and longevity of their buildings, even in regions of the country they may not have had to consider before.

“With climate change, there’s an understanding that there’s a potential for [extremes] to happen,” says Nick Rajkovic, assistant professor at the University at Buffalo. “And it’s certainly going to stress our infrastructure and our buildings pretty significantly.”

The Challenges of Weather Whiplash on Buildings

As an architect and a former program director at State Farm Insurance, Rose Grant, AIA, has dedicated much of her career to studying disaster response and resiliency. “When we see extreme temperature swings in a 24-hour

period, we have to wonder, ‘Are the materials we’ve selected for our buildings going to respond quickly enough?’” she says. “So we need to look at things we already do, but maybe with a different amount of concern.”

Among the risks are rapid freeze-thaw cycles caused by significant temperature swings. They can lead to the excessive expansion and contraction that causes expansion joints to fail, leads to cracks in foundations, and heaves sidewalks, all in much quicker cycles than one would typically plan for in the life span of a traditional structure.

The cycles also can create an issue with snowmelt. For buildings with low-slope roofs, a rapid freeze-melting-refreeze could cause frozen water to block drainage, thereby leading to ponding water and potential roof collapse.

Such occurrences may be even more jarring for areas where such extremes were previously a once-in-a-generation event. On a visit to Memphis, Tenn., for instance, Grant witnessed frozen water lines caused by a sudden drop in temperature that wasn’t anticipated for the typical design of buildings there. Other areas have experienced similar phenomena with the arrival of the polar vortex, which is increasingly pushing farther and farther south; where once freeze events happened every couple

AIA Future

CONTINUED

of decades, they're now taking place more frequently and for longer periods, she notes.

On the opposite end of the spectrum is drought—not only the extended periods of drought we've been seeing in recent years, such as in California, but a situation known as “flash droughts,” Grant explains, or the rapid onset of a drought. A drought followed by lots of rain can also overwhelm systems such as subsurface dewatering systems and sump pumps, as well as sanitary and zone water systems, which can cause water backups into buildings.

How to Prepare

“The difficult part is that the climate is changing in ways we can't always predict,” Grant says. “We don't necessarily know what the absolute metrics are that we need to design our buildings for. It's very difficult for designers.”

First and foremost, Grant recommends that architects pay attention to climate science and focus on education. Managing weather whiplash means thinking through worst-case scenarios and understanding the limitations of building materials beyond the norms within which they're typically specified.

And since most codes and standards are written from the perspective of history, they may not address the new extremes. Consider flood maps, Grant says. “Flood maps are based on past events. But that doesn't necessarily tell us what might happen in the future. So is a design to 1 foot higher than predicted good enough or does it need to be three or five?”

Nick Rajkovich, assistant professor at the University of Buffalo, says that architects should try to understand these potential extremes as they apply to the local level, at least as much as is possible. “Think about how buildings shed water or how over time we might see the ground freeze-thaw in different ways,” he advises. “We're not going to have perfect predictions.”

One resource for architects was developed by Rajkovich's team for the New York State Energy Research and Development Authority. “Adapting Buildings for a Changing Climate” includes eight reports, six webinars, and four fact sheets available for free download at ap.buffalo.edu/adapting-buildings.

Just as important, existing buildings must be considered. “I think there is a tremendous opportunity for architects to develop expertise in retrofits and mitigation strategy that they can utilize with clients when there are existing buildings involved,” Grant says. **AIA**

AIA Perspective



Strength in Numbers

We're moving in the right direction, but a heavy lift remains.

The American Institute of Architects reached another membership record in 2019, growing to over 95,000 members. With the strength of these numbers, we've never been in a better position to achieve our profession's most meaningful priorities: increasing sustainability and resiliency; ensuring access to safe, affordable housing; protecting health, safety, and welfare; advancing society's quality of life; serving as leaders in our communities to build a better future for our cities, and our planet.

Our progress toward each one of these goals depends on one more: attaining greater diversity, equity, and inclusiveness in our profession. Actually, that's not merely a goal; it's an imperative. It's not just the right thing to do, it's the smart thing to do. To succeed, we need the voice, perspective, and talent of everyone without regard to race, age, socioeconomic background, or gender.

We're moving in the right direction, but a lot of work remains. The proportion of women enrolled in schools of architecture has jumped from just 25% in 1985 to 46% now.

At the same time, African American and Hispanic architecture student numbers remain far too low. Roughly 19% of new architects identify as nonwhite.

AIA is taking a variety of thoughtful steps to promote equity, diversity, and inclusion.

In 2019, AIA piloted Future Architects Opportunity Grants to fund conference attendance, architecture study, and internship

costs for third-year architecture students attending historically black colleges and universities. In partnership with local firms and components, we also launched the “Embracing Our Differences, Changing the World” speaker series held around the country, through which members shared their experiences as diverse architects and designers.

Recognizing the existence of multiple layers of inclusiveness, AIA continues to implement strategies to develop a pathway to leadership for ethnically diverse women, who face a unique set of challenges at the intersection of gender and racial bias. A task force developed following adoption of a resolution in 2018 is taking the next steps, working through state and local components to expand the professional and leadership pipelines, as well as formalize leadership preparation to reduce institutional barriers.

These high-profile projects are important, but prioritizing inclusiveness in our day-to-day work is just as vital. That's the idea behind our Guides to Equitable Practice, the final three installments of which are now available on AIA's website. Developed in partnership with the University of Minnesota and University of Washington, the guides draw on the latest research and real-world experiences to develop best practices and tools that architects all along the career continuum can use.

The latest chapters continue the conversation. “Advancing Careers” examines how social, cultural, and economic forces may steer individuals toward or away from certain pathways. The next chapter, “Engaging Community,” addresses how architects can be more informed citizens, lead engagement as professionals, and model equitable practices as we work with our communities to achieve a more equitable built environment.

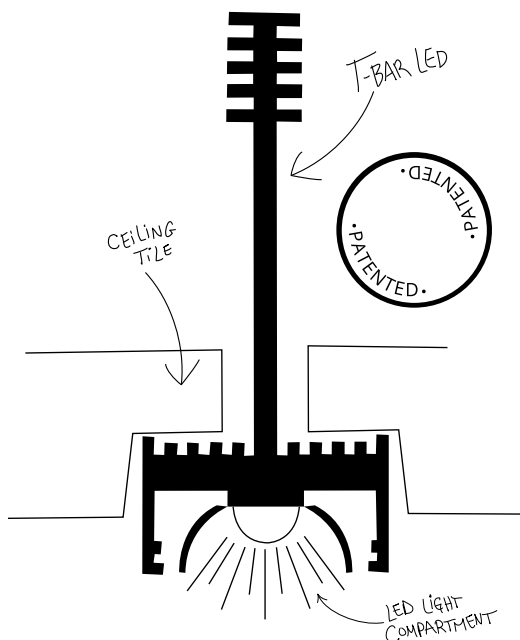
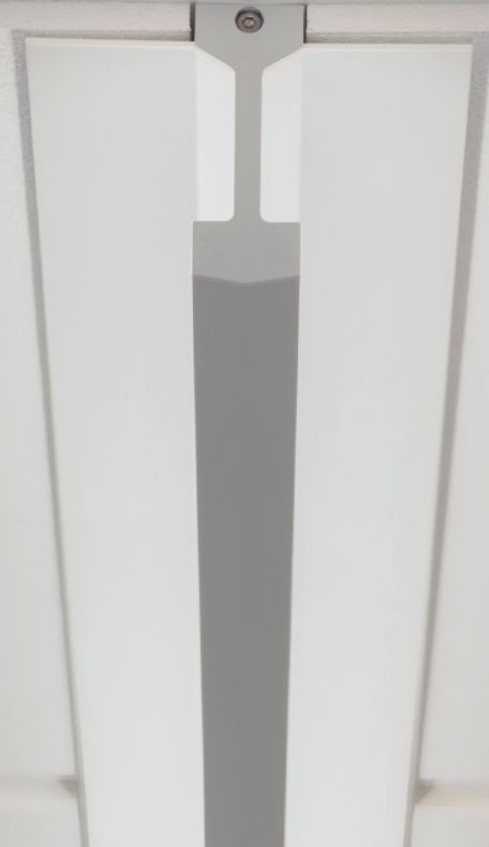
The guides are meant to spur not just conversation, but action and accountability. That's why the final chapter, “Measuring Progress,” suggests possible metrics and frameworks to assess effectiveness and keep leaders and employees engaged.

The issues and challenges of our time are too complex to be solved with a narrow set of perspectives and experiences. Fundamentally, we all want the same thing: a better, brighter, and fairer future. To get there, we must make sure we have everyone at the table and in the room. If we do, there is no problem that we can't solve, and there is no limit to what we can achieve for our communities. **AIA**

Jane Frederick, FAIA, 2020 AIA President

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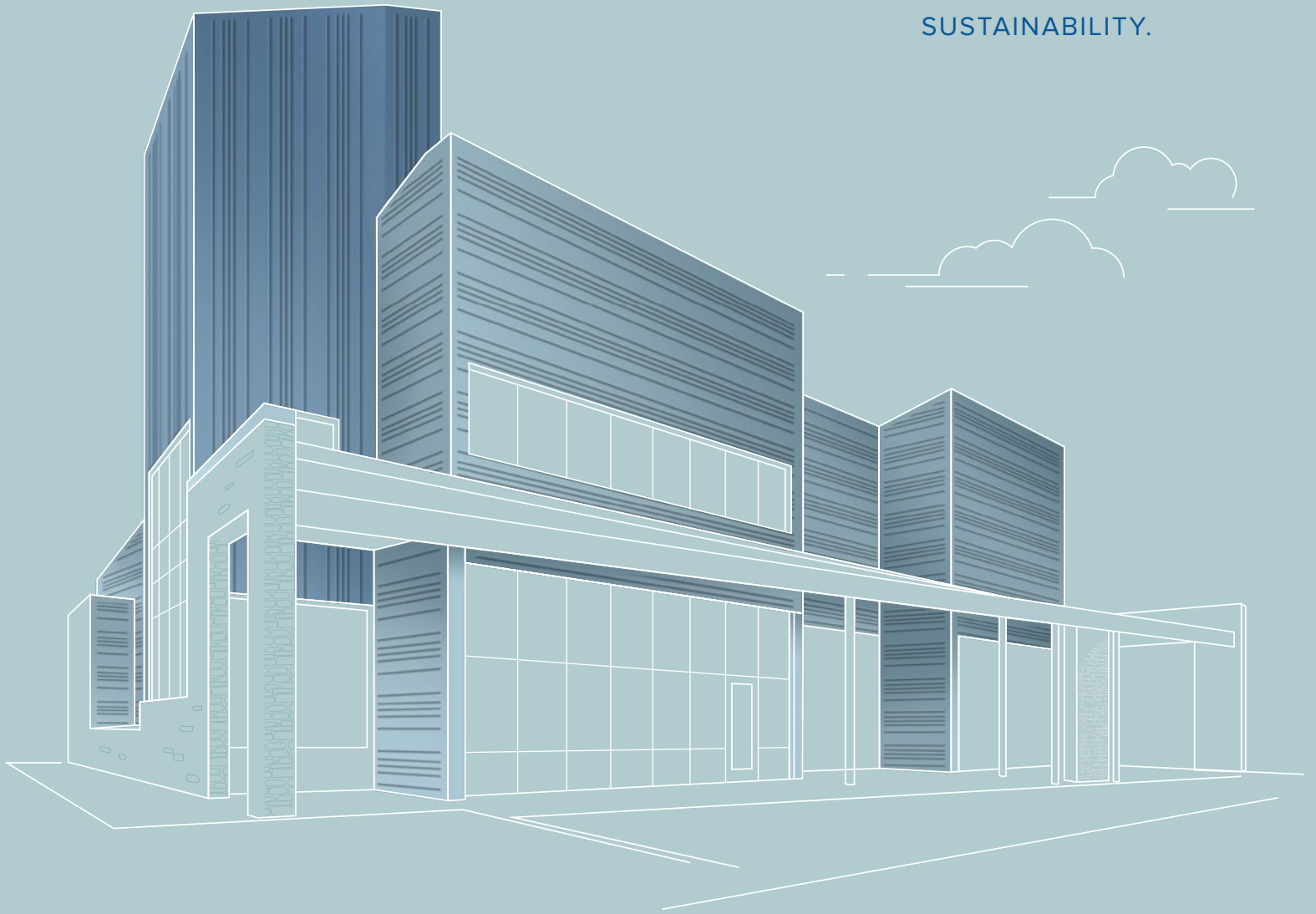


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“The tech industry has incubated its share of hubris, and one wonders whether the Chase Center is likewise built on a bubble, whether it’ll end up more MySpace than Facebook.”

Luxury (and Layups) at the Chase Center by Josh Stephens

For 47 years, the Golden State Warriors played in the Oakland Arena, which at the end of the 2018–2019 season was the second-oldest stadium in the National Basketball Association. The outrageous success of the Warriors—three NBA titles and two finals appearances in the last five years—packed the house every night with blue-collar Oakland natives and tech industry elites from Silicon Valley. The Warriors are beloved in Oakland, San Francisco’s more progressive and grittier stepsister, and fittingly, perhaps, the Oakland Arena was somewhere between a functionalist masterpiece and a midcentury dump, distinctive for its diamond exterior bracing, perfectly cylindrical shape, enormous parking lot, and near-absence of amenities. Golden State needed an upgrade. They opted not only for a new arena but also a new city.

The team settled on an 11-acre site in the Mission Bay neighborhood of San Francisco, one of the only major underdeveloped parcels remaining near the famously dense and expensive downtown. A former rail yard and industrial district, Mission Bay was created largely with landfill, including refuse from the 1906 earthquake. The site offers views across the bay of the old arena and, more importantly, of the east span of the Bay Bridge, which adorns the team’s logo. It is one of the more spectacular settings in the American sports landscape—rivalled only by Oracle Park, the Giants’ baseball stadium about a half-mile to the north.

The Warriors and their design architect, Kansas City, Mo.–based Manica Architecture (Gensler was responsible for the interiors and SWA Group did the landscape master plan), faced a singular challenge: How to design an arena to appeal to fans whose wealth, in many cases, eclipses that of the players themselves. Golden State’s rise has coincided with the vaunted Bay Area tech boom, and the team is among the hottest tickets in town for billionaires, titans of industry, and the stream of millionaires who follow in their wake. At the new Chase Center, developed at a reported cost of \$1.4 billion, they no longer have to slum it.

Of those billions, the public sector contributed nothing. Wealthy athletic teams have become champions at extracting public monies for what are,



The Oakland Arena, the Warriors’ former home next to the Coliseum

essentially, private assets—a trend that has continued even as evidence has mounted that public subsidies are bad investments. One of the few exceptions is California, where voters have grown wise to the practice: Sacramento’s new NBA arena was also privately funded, as is Los Angeles’s new football stadium. As for Golden State’s ownership team, they apparently didn’t need public help: They sold the naming rights to Chase for \$300 million, and the team grossed over \$2 billion in ticket and suite presales and sponsorships before the 18,000-seat arena even opened—with a waitlist of 44,000 customers. In other words, that \$1.4 billion is already looking like a smart investment.

A Potent Symbol of Late-Stage Capitalism

The end result looks handsome enough. The exterior drum of the Chase Center resembles a reassembled apple peel, according to David Manica, AIA, the firm’s founder. Previously an architect at Populous, he has designed or contributed to arenas and stadiums for the NBA’s Houston Rockets, the National Football League’s Houston Texans, and soccer teams in Brazil, Qatar, Russia, China, and elsewhere. Manica told me he welcomes the NBA’s embrace of contemporary style, compared to, say, baseball’s preoccupation with history and nostalgia. The Chase Center’s cladding is indeed ultra-white and modern, suggesting the shiny countenance of a superyacht. The metaphors get really mixed, though, with the inclusion of hundreds of rectangular slits meant to evoke punch cards from the



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early days of computing. They give the exterior some visual interest, and they are functionally part of the building's ventilation system, but the gimmick—too cute by half—will be lost on the average fan.

The center's most appealing exterior feature may be an entry plaza—roughly the size of two basketball courts—framed on the east side by a glass pavilion housing an amphitheater (designed by SHoP) and on the west by the arena itself and an enormous video screen mounted to the building's façade. A public walkway encircles the entire drum, sloping downward from the entry plaza through an appealing box-canyon-like passage on the south side and through a paseo lined with restaurants and the NBA's largest team store on the north side. A series of stairs and plazas on the east side overlook the bay. That's the site of the Chase Center's most delightful design element: a wall-length mosaic by the Precita Eyes Muralists, a local collective, depicting the Bay Area in all its funky glory—Victorian houses, BART trains, cargo cranes, low-rider bikes, a multiethnic game of playground basketball, and not an iPhone or corporate logo in sight. (Less enchanting is "Seeing Spheres," an art installation by Olafur Eliasson that consists of five mirrored globes that are as brazenly Instagrammable as they are aesthetically dubious.)

Inside, the Chase Center has relatively steep sightlines and a tight seating bowl designed to showcase basketball and enable a few different concert configurations. Manica told me that the center packs far more features into a medium-sized building envelope than almost any other arena. The main lobby, for instance, features a four-story atrium punctuated by Space Age, Saarinen-esque flourishes and some dramatic escalator rides through open air. The whole place has a clean, Scandinavian feel, with both white and blond wood as the dominant colors alongside the Warriors' royal blue and golden yellow. An upper deck lounge, the Modelo Cantina, hangs over the north-end baseline from what seems like miles above the floor, designed in part to look good on television. Manica told me he wanted viewers at home to recognize the arena, which is no small feat given how similar most stadiums look on the inside.

As much as it is a piece of architecture, the Chase Center is also a potent symbol of late-stage capitalism. The real action is in the lounges: lounges in the rafters, lounges underground, lounges on the north side, lounges on the south side. Lounges named for banks and beer and airlines. Fans with seats on and near the floor no longer just get an intimate view of the action; they also have access to lounges embedded deep under the lower-level seats. Even the average fan in the lower seating bowl can visit one of two lounges on



The arena, in Mission Bay, includes several tech giants as neighbors



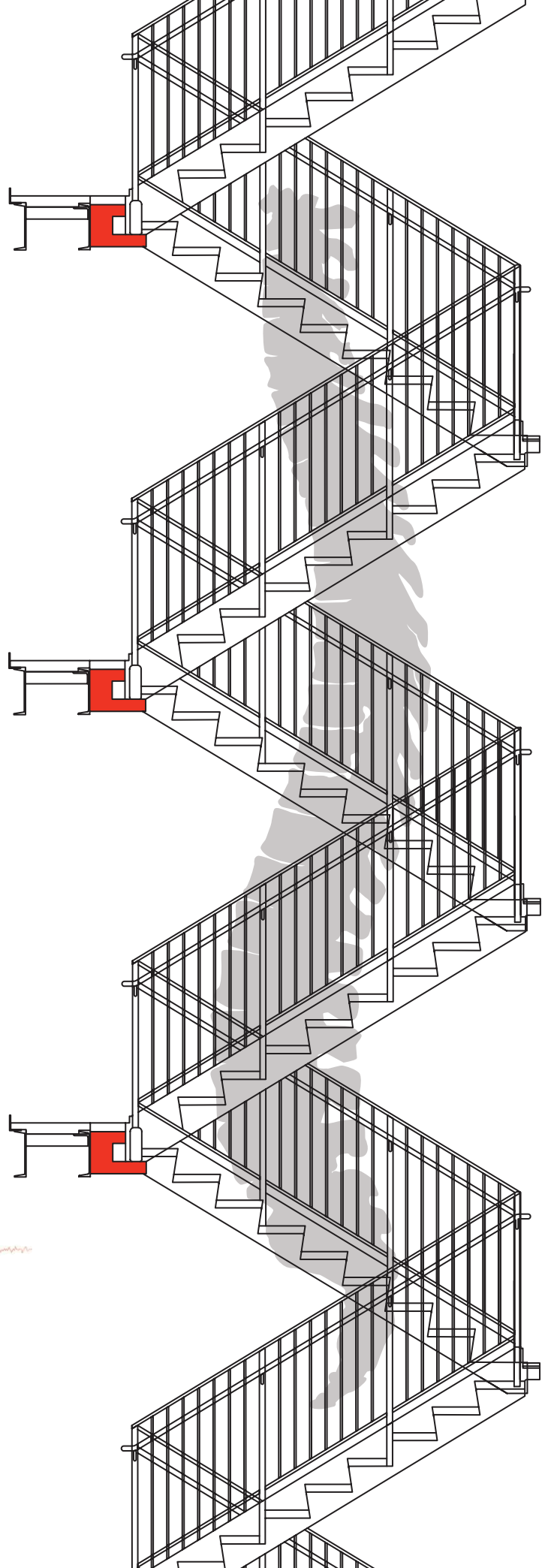
The east lobby

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One of the center's many courtside lounges

opposite sides of the court, each with bars, food stalls, bistro tables, and booths. One wonders how much live basketball fans in the Chase Center will actually watch.

Especially because the arena boasts the league's largest scoreboard/video screen, measuring 82 feet by 59 feet—nearly as big as the court itself. Together with smaller screens and accent lighting throughout the seating bowl, it facilitates some sweet light shows, and can be retracted for concerts and other events. It's so big that the undercarriage includes even more screens for fans in the lower seating bowl, who are probably watching those screens on the screens in the lounges.

The Chase Center also includes the typical NBA complement of luxury boxes, priced at \$1 million per season, around its midsection. For patrons who are more social, or who don't have two dozen clients in tow, the arena includes a new category of luxury seating: the "theater box." Mini-boxes face the court and include a full buffet and bar and restaurant-style seating where fans can dine without the indignity of holding a hot dog in their laps. As for the average fan without the pull to get into the JP Morgan Lounge, Oakland's beloved, ironically named Bakesale Betty outlets will likely do robust business.

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Lounge interior

The class distinctions become readily apparent on the dramatic escalator ride to the upper level—a ride that ascends five stories through the atrium before disappearing unceremoniously into the arena’s upper bowels. Along the way, fans pass the luxury suite mezzanine. It’s an experience not unlike moving through business class en route to economy, as three-story chandeliers and picture windows give way to narrow, crowded passageways with endless vendors and ceilings covered in shotcrete and exposed ducts. The upper level, where the team reserves most of the 5,000 seats for individual game purchases, is not unpleasant—and it’s certainly an acceptable sporting experience—but the divide is clear.

A Radical Absence of Parking

The Chase Center, as yet another billion-dollar symbol of corporate power, has been accused of contributing to San Francisco’s notorious wave of gentrification. That may be true on the whole, but Mission Bay itself was a blank slate—there wasn’t anything to gentrify.

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The neighborhood now consists largely of master-planned corporate and institutional campuses with medium-rise towers, and the Warriors' neighbors include tech icons like Uber, Dropbox, and Cisco. It has none of the charm, though, of the city's dense, historic neighborhoods. Even Oracle Park, just a mile north, feels more integrated into the historic fabric. How Mission Bay will age remains anyone's guess.

Unlike most office parks—and most major sports ventures—the Mission Bay location does have public transportation access, and the Chase Center, in its most radical turn, boasts a near absence of on-site parking. The Oakland Arena used a 10,000-stall surface parking lot that also served the Oakland Coliseum. At Chase, fans who don't come by Maybach or personal quadcopter can arrive by foot, bike (with a dedicated bike valet station), ferry (with special service for games), and light rail—a Muni stop rises immediately in front of the entry plaza. It's the same line that serves Oracle Park, so eco-conscious fans should know the drill.



The arena's tight seating bowl and scoreboard, the league's largest

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The tech industry has, over the years, incubated its share of hubris, and one wonders whether the Chase Center is likewise built on a bubble, whether it’ll end up more MySpace than Facebook. Since 2012, the Warriors have sold out every game not because of the Oakland Arena, but in spite of it. Golden State may soon discover, however, that the din across the bay—the old arena was one of the loudest in the league, an advantage for the home team—had more to do with the Warriors’ extraordinary run. The noise may just as quickly die down if the team stops winning, no matter how nice the new arena is or how loud it was designed to be. (Manica says he worked with acoustical engineers



The SHoP-designed pavilion

to replicate the favorable acoustics, if not the aesthetics, of the old arena.) An injury to superstar Steph Curry has contributed to an early-season slump, and Golden State currently has one of the worst records in basketball. What will come of the new luxury boxes if Golden State loses its touch? Likewise, as invincible as Google, Salesforce, and Twitter may seem today, what will come of all those corporate perks if the Bay Area tech revolution stalls or moves elsewhere?

Many Oakland natives resent the loss of the Warriors and the NFL’s Oakland Raiders, who will soon relocate to Las Vegas to a stadium designed by none other than Manica. The two moves inspired Proposition I, a 2018 ballot measure in San Francisco, which would have called on the city to oppose the “relocation of established sports teams” from other municipalities. The measure failed, 97,863 votes to 130,916, but it appears nonetheless that the Chase Center alienated a solid 20% of San Francisco’s half-million registered voters even before the first tipoff. Lucky for the Warriors, enough fans seem more than willing to drop some serious cash on the experience, so long as the tech money keeps flowing and the Warriors keep draining threes.

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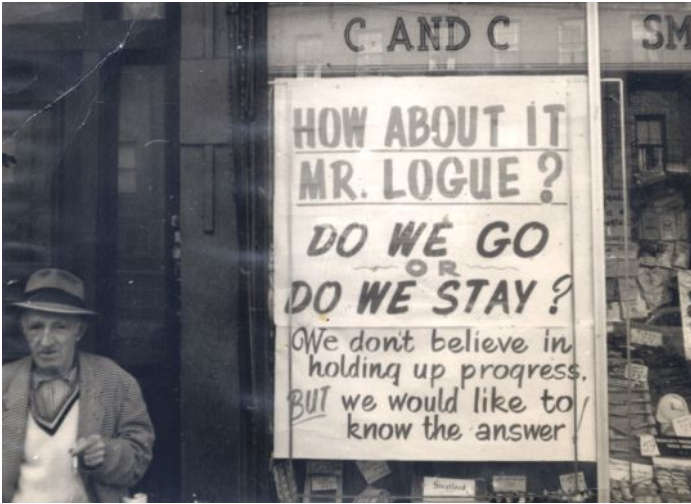
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“How could such a clear-eyed, honest, and progressive guy, talented at getting lots of money from the federal government, oversee so many disastrous projects?”

In 1962, at the Museum of Modern Art, the urban renewal pioneer Edward Logue and the urban renewal critic Jane Jacobs faced off in a debate. Jacobs had just published *The Death and Life of Great American Cities*, her seminal “attack on current city planning and rebuilding,” as she wrote at the book’s beginning. Logue was in the midst of remaking Boston as head of the Boston Redevelopment Authority, investing millions of federal dollars in affordable housing across the city and in the downtown’s ambitious Government Center; a few years later he would move on to New York. *The Washington Post* called him “the Master Rebuilder.”

Logue’s angle on Jacobs was sharp. Jacobs had positioned herself as a critic of suburbia, its excesses and exclusivity. But Logue saw a weakness in her logic. For better and for worse, urban renewal was the federal government’s effort to reinvest in cities after subsidizing the creation of the suburbs and, in turn, devastating urban tax bases. Logue believed that by attacking urban renewal, Jacobs was unwittingly letting



A sign in Boston’s South End circa 1960s–70s

suburbia off the hook—a point he made with panache at the debate. Her argument was popular “among comfortable suburbanites,” he said, “who like to be told that neither their tax dollars nor their own time need to be spent on the cities they leave behind them at the close of every workday.” Jacobs was myopic, he suggested, and a friend to the burbs to boot.

In our seemingly never-ending clash between the top-down-monumental approach to city building, represented by the likes of Logue and Robert Moses, and the local-small-scale approach of Jacobs, it was a point for “Team Top-Down.” It wasn’t the only one.

In her meticulously researched biography of Logue, *Saving America’s Cities: Ed Logue and the Struggle to Renew Urban America in the Suburban Age* (Farrar, Straus and Giroux, 2019), the historian Elizabeth Cohen, a professor of American Studies at Harvard, argues that urban renewal was more forward-looking than we like to acknowledge today. More importantly, Cohen takes issue with the entire “Jacobs v. Moses” city-building narrative. It’s a “stark and in many ways distorting dichotomy,” she writes, that should have fallen out of fashion a long time ago. Cohen’s portrait of Logue, urban renewal’s forgotten protagonist, demonstrates how his legacy resists such easy classification.

Cohen has found a compelling figure in Logue. Over the course of his 30-year career, Logue remade New Haven, Boston, and New York, and worked with some of the era’s most powerful governors, mayors, and architects. In the 1950s, as head of the New Haven Redevelopment Agency, Logue collaborated with Paul Rudolph (the Temple Street Parking Garage) and Gordon Bunshaft (the Conte School in working-class Wooster Square), among others. In the 1970s, Logue was appointed by New York Governor Nelson Rockefeller to run the statewide Urban Development Corporation, where he transformed Roosevelt Island (formerly Welfare Island) with a plan by Philip Johnson. Throughout it all, Logue challenged the approach of both Jane Jacobs and Robert Moses. In the mid-1970s, when Logue lost his fight to build low-income housing in nine towns in tony suburban Westchester, outside of New York City, Moses himself had voiced support for the local opposition.

As for what should replace the tired “Jacobs v. Moses” framework, Cohen is less certain. Sometimes she suggests it could be Logue, while at other times she acknowledges that his many failures preclude him from being a solution to anything. I didn’t mind this uncertainty, mostly because the tension that kept me reading *Saving America’s Cities* wasn’t how Logue would upend this dichotomy. Rather, it was how such a clear-eyed, honest, and progressive guy, talented at getting lots of money from the federal government, could oversee so many disastrous projects.

It’s a timely question. Our country’s infrastructure is old and crumbling, and most Americans support government spending to fix it. If we’re going to rebuild, as we must, we need to understand how we’ve gotten it wrong in the past. Some of Logue’s failures have familiar villains. There’s Le Corbusier and his foolish, inexplicably seductive vision that cities should have separate quarters for work, play, and housing—a vision that Logue and many postwar city-makers followed, to tragic effect. There is also the

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federal government's massive failure to desegregate the suburbs and enforce Fair Housing laws. (Cohen doesn't consider these trends and forces as much as I would have liked.) In many ways, Logue's story is the tale of one man coming to realize, rather slowly and sometimes painfully, that the problems he aspires to solve are structural and political in nature, beyond the grasp of any one man, woman, or agency. He alone cannot solve them.

A Progressive (With One Glaring Exception)

Cohen establishes Logue's progressive bona fides from the start. At Yale, where he completed his undergraduate and law degrees, Logue spent his senior year helping to organize the university's janitors and maids, and after graduation, he took

a full-time job with the local 142 of the United Construction Workers. "Unions are the greatest single force today in preserving and strengthening our democracy on the home front," Logue wrote when he left his job and entered the Air Force.

Logue also thought critically about American racial prejudice. After World War II (he flew missions over Italy), he drafted a proposal he called "Is One Hundred Years Long Enough?" to promote full citizenship rights to black Americans. "The Negro problem in America today is not a Negro problem," he wrote. "It is a white problem." Logue believed it was the government's responsibility to ensure full civil rights; he also believed in government support for poor and low-income Americans. "You can't trust the private sector to protect the public interest," he liked to say.

But while Logue challenged the era's racism and classism, he indulged in its misogyny. He rarely hired women, partly, it seems, because doing so would have interfered with his enjoyment of what Cohen rather euphemistically calls "the fraternal intensity of the workplace." Logue liked to hold lunch meetings at prestigious all-male clubs: the Graduate Club in New Haven, the Century Association in New York. When he moved to Boston, he negotiated membership to the all-male Tavern Club as part of his hiring package. When he moved to New York, he fought against an effort to open the Century Association to women.

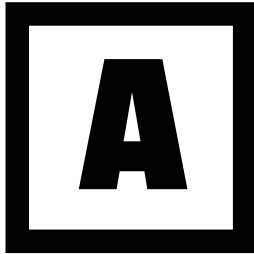
Embracing the "male culture of urban renewal" had unfortunate effects beyond the obvious. Although Cohen never quite says it, it's clear that Logue's work, in New Haven in particular, suffered from a lack of imagination enabled, in large part, by sexism. Logue made a practice of hiring young planners who had been educated at the best schools but weren't from



Top: New York Governor Mario Cuomo presenting Logue (far right) and other community leaders with a check for Charlotte Gardens.

Above: The project, in the Bronx, included 90 prefabricated single-family houses designed for the lower middle class.

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the cities he was remaking. When they talked with the locals, Logue's teams went through already-powerful interests: area businessmen, heads of unions, religious leaders. Community engagement was like a series of unofficial public-private partnerships. Those who oversaw social networks and home fronts, namely women, were ignored.

When Logue and his employees built highways and housing, they were blind to the consequences of destroying a neighborhood in the process. They failed to anticipate the need for the replacement housing, leaving thousands of families worse off than before. They also failed to anticipate the collective anger and loss that arose when entire communities were wiped out. One of the book's most memorable quotes belongs to a New Haven official who spoke to a university researcher about the secrecy surrounding their projects, including the razing of the primarily black Oak Street neighborhood. "You have to realize that if you talk about wholesale relocation and demolition, then the people would be filled with fear and frustrations," the official said. "While we explore very carefully all the implications of every project, we have to be careful not to have any public conversation until we are absolutely satisfied that we are right." If not for the resulting devastation, the hubris would be almost amusing.

Why Urban Renewal Failed

Today, urban renewal is often invoked as part of the argument against "big government." Cohen's history is important in part because it shows that the failures of urban renewal had less to do with government itself and more to do with who officials did and did not include in their decision-making. Local businesses and chambers of commerce had ample seats at the table; representatives of ordinary people did not. Logue revised his urban philosophy throughout his career—after New Haven, he stopped displacing people—but he didn't really learn how to build with and for a community until the very end, when he ran the South Bronx Development Office.

In the late '70s, the South Bronx was the country's poorest neighborhood. Moses's Cross Bronx Expressway had devastated the area and displaced an astonishing 60,000 residents. "Arsonist" was a lucrative side gig, as landlords hired people to burn down buildings so they could cash in their insurance; in a feature called "The Ruins Section," *The New York Times* provided a daily update of the number of Bronx buildings that were on fire. The area's poor African American and Latino residents mostly relied upon community organizers. Father Louis Gigante



ran social services in Hunts Point; Genevieve Brooks founded a community organization called the Mid Bronx Desperadoes.

Logue's tenure running New York's Urban Development Corporation had recently ended poorly, thanks to the Westchester controversies, not to mention a few others, so in 1978 Mayor Ed Koch hired him for the South Bronx position. Brooks and Gigante, along with many residents, were very skeptical of Logue when he arrived. But Logue was humbler now, and Brooks and Gigante recognized that he brought

Cohen's history is important in part because it shows that the failures of urban renewal had less to do with government itself and more to do with who officials did and did not include in their decision-making.

along needed resources, connections, and expertise. When Logue got in touch with Gigante, Brooks, and others with long ties to the neighborhoods, they, in turn, worked with him.

Cohen characterizes Logue's work in the Bronx as Logue being Logue, because he prioritized the development of affordable housing. His most famous project was Charlotte Gardens: 90 prefabricated, single-family homes, replete with white picket fences and little yards in the back. The houses, all raised ranch style, contained 1,152 square feet and had three bedrooms, one-and-a-half baths, and a full basement. Logue secured federal subsidies so that each home cost \$50,000, less than half the construction price. Buyers put 10%, or \$5,000, down. (Adjusted for inflation, that's \$12,000 today.) They also promised not to sell their homes for at least 10 years. When Logue opened two model homes for viewing, in 1983, the waitlist grew to over 2,000 people, all of whom were members of the lower middle class: teachers, bus drivers, mechanics, and cops. Brooks and Gigante helped select the 90 buyers: half were black, half were Latino, and none had ever owned a home before.

Charlotte Gardens was a success. But it also represented a significant change for Logue: This time, he worked closely with grassroots community organizers. In addition, he didn't fetishize high design or academic expertise, both of which looked down on low-density, suburban housing styles.

Logue in his heyday had made a practice of hiring elite architects because he believed that everyone,

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rich and poor, deserved to live in well-designed spaces, but also because he enjoyed the social status conferred by working with celebrated Modernists. Charlotte Gardens, on the other hand, was decidedly lowbrow, but that was not to its detriment. The homes were solidly built and affordable, and their style was meaningful to the people Brooks, Gigante, and Logue were building for: working-class families of color from the South Bronx. They had been excluded from the suburbs for decades. A house with a backyard meant something.

Lessons Learned (and Overlooked)

In the book's final pages, Cohen identifies a few general lessons from Logue's career, including the dangers of privatization and the importance of state and national governance. These lessons ring true, but they also feel rather obvious and slight, given the substance of her analysis. Cohen shows that many of Logue's least successful projects, including his efforts to build affordable housing in the suburbs, ran up against structural barriers—segregation, privatization, zoning—that only state and federal policymakers, voted into office, could have confronted. She also shows that Logue's most successful projects included the voices of lots of regular people. This doesn't mean that planners, architects, and officials relinquished their own roles or expertise. But it does mean that they realized ordinary people had knowledge worth heeding.

Logue's story has an unexpected lesson, then. It suggests that rethinking city-making—and dispatching with our misguided mythologizing of the “Jacobs v. Moses” narrative—can't be done by lionizing another, different person. It's a strange message to take away from a biography—one that Cohen didn't seem to anticipate. Although she never claims that Logue represents *the* solution to today's urban crises, her impulse to make him the focal point in a story about saving cities is, ultimately, at odds with the work that needs to be done going forward. She never really reckons with this dissonance.

It does seem fitting that Logue ended his career in the Bronx with the small but instructive Charlotte Gardens. One reason that the project worked is because it tapped into multiple networks and sets of resources across multiple scales of government. Logue, Gigante, and Brooks worked with one another and with bureaucrats and residents, respectively, over many months and years. They built new homes, rebuilt a neighborhood, and changed the way things got done. As far as new mythologies go, it's a good start.



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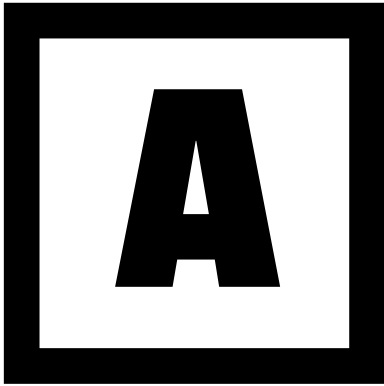
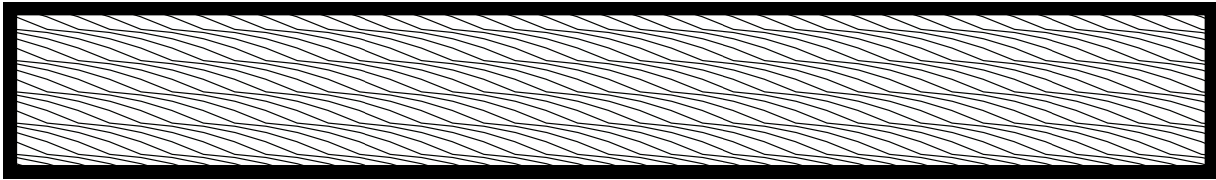
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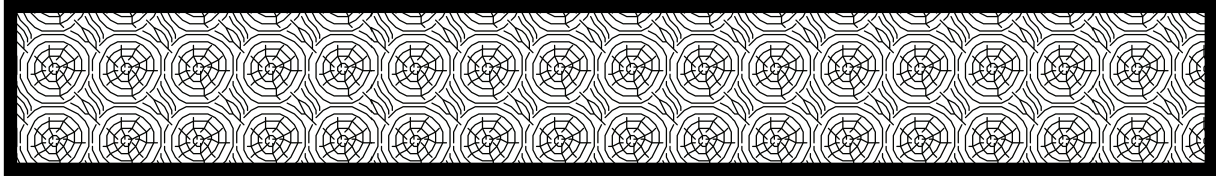
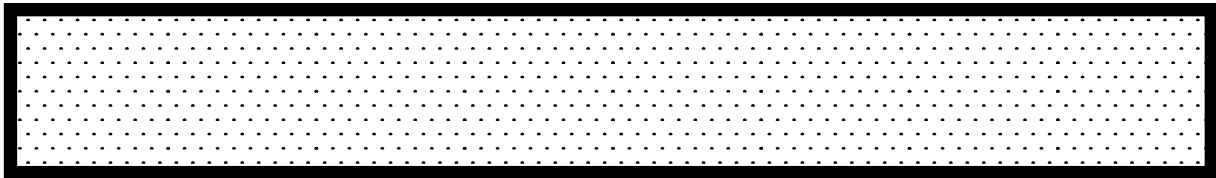
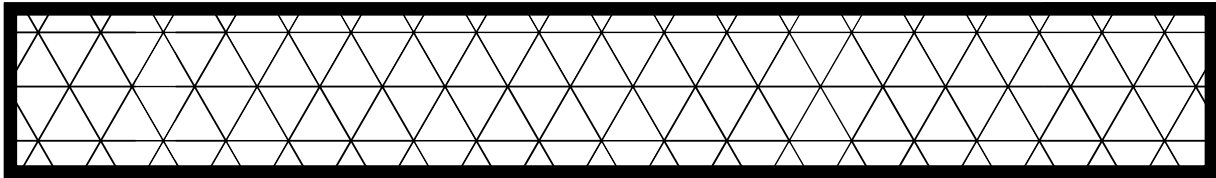
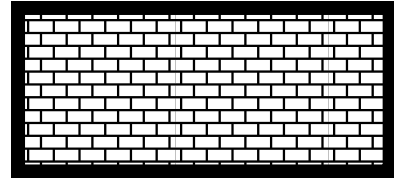
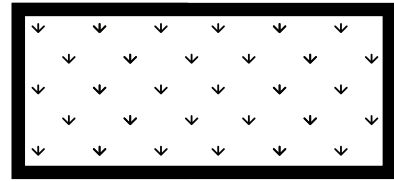
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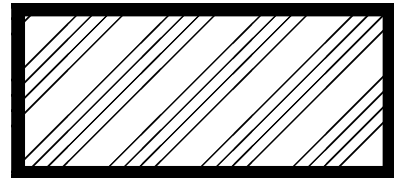
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Washington University East End Transformation



St. Louis

**Michael Vergason Landscape Architects
KieranTimberlake
Moore Ruble Yudell Architects & Planners
BNIM**

An ambitious building campaign sets a high bar for energy efficiency, carbon reduction, and inclusion on a 120-year-old campus.

TEXT BY KATIE GERFEN
PHOTOS BY PETER AARON/OTTO



Preserving history while keeping up with innovation can be difficult for any institution—particularly when dealing with the infrastructure of a historic college campus in an era of rapid advancement in building technology. It’s a circumstance being faced by universities around the world, and with its new East End Transformation, Washington University in St. Louis is taking on the challenge of reinvigorating 20% of its campus, while addressing sustainability across the board.

Construction on the midtown campus started in 1900, and since that time, the school has continued to build within the framework of two original master plans: an 1895 landscape-based scheme by Olmsted, Olmsted & Eliot, and an 1899 block configuration by Philadelphia’s Cope and Stewardson. Both plans left room for interpretation, envisioning the east end of campus as a green space, without buildings. In Cope and Stewardson’s plan, which was built out, an allée of oak trees leads from Collegiate Gothic historic core to the far eastern edge of campus.

Making Sense of the East End

Necessity drives expansion, and as the demand for facilities grew, the East End became a clearinghouse of seemingly ad hoc, though by no means insignificant, construction. Between the two World Wars, local firm Jamieson & Spearl lined the south edge of the area with two buildings in an anomalous Stripped Classical style—the architecture school, Givens Hall, and the art school, Bixby Hall—leaving a gap between them for a museum that a young faculty member, Fumihiko Maki, HON. FAIA, filled with the Modernist Steinberg Hall (1960). Maki returned decades later, a Pritzker Prize laureate, to expand the arts complex—now home of the consolidated Sam Fox School of Design & Visual Arts—with the Kemper Art Museum and Walker Hall (both 2006). On the north side of the allée, Boston-based Shepley Bulfinch designed Whitaker Hall (2003) for the biomedical engineering program, and RMJM designed two other engineering buildings, Brauer Hall (2010) and Green Hall (2011)—all three of which recall Cope and Stewardson’s original Collegiate Gothic.

The remaining open space was a giant parking lot. The problem with this arrangement was that the East End is the university’s formal entrance, and it faces the 1,300-acre public amenity of Forest Park. The setup served as “a barrier, a no man’s land,” between the school and the city, says associate vice chancellor and university architect James Kolker, FAIA. “It was one of the few places on campus where cars went all the way through, and it was disconnected. Anything we can do to bring Forest Park into our campus makes the East End a connector rather than a barrier.”

A Sustainable Future

Parallel to the creation of a new master plan for the East End, the university was in the throes of a second planning process: In 2010, it announced its intention to reduce greenhouse gas (GHG) emissions to 1990 levels by the year 2020. Why 1990? “The most important reason is because it is the first year we had reliable data,” says Henry Webber, executive vice chancellor and chief administrative officer of the university. “One wants to be aggressive, but we also want to set goals that can be met with current technology,” as it was in 2010. “We’re into the ‘Show Me State’ piece,” he says, referencing the unofficial Missouri state motto, “which is we want to be sure we can achieve those [goals]. If we stretch we think we can get there.”

Throughout campus, energy improvements were made to existing buildings using data from extensive metering and monitoring. “It was a hard sell because it was very expensive to meter by individual floors of every building on campus,” Webber says. But the investment has paid off because “you can start looking at things like: Why are we using twice as much energy on floor four of this building rather than floor two? Sometimes there’s a good reason, but sometimes it turns out that it’s because of an efficiency problem.”

Metering allowed the university to make incremental improvements to existing building performance, but more-efficient new construction also brought real gains—and the university has doubled its square footage in the same decade it has been making GHG reductions, Webber says. “As a large institution with relatively large resources and capital, when we do a building, we have the ability to say: ‘What are the costs over 30 years?’ and ‘If I spend 5% more now, am I going to be better off over the long run?’” Webber says. “And we’re building buildings for the very long-term. We expect them to be permanent objects.”

Re-Greening Through Parking

The university tasked Alexandria, Va.-based Michael Vergason Landscape Architects with developing a master plan for the East End, centered on a new quad, Tisch Park. The first thing that had to go was the surface parking, which consumed most of the remaining historic green space. Kansas City, Mo.-based BNIM and Philadelphia-based KieranTimberlake were tapped to create a two-level underground garage that could handle not only parked cars, but also traffic circulation. “When we took away the roads, the buses needed a place to go,” BNIM director of design Steve McDowell, FAIA, says. So the garage incorporates a bus hub and pedestrian pathways to the rest of the site. Keeping building

permanence—and embodied carbon—in mind, the team designed the garage with enough structure and services to support adaptive reuse down the line. In a future with fewer cars, the ample natural light from skylights, punched entrances, and grade changes will serve enclosed classrooms or labs. It is something the firm has considered before, “but this is the first project we’ve actually followed through 100%,” McDowell says.

Submerging the parking reclaimed the ground plane for Tisch Park. Vergason revived the allée of oaks (nearly half of which were damaged or dying), with more than 30 tree species, most native to the region, while still framing a view of Brookings Hall, Cope and Stewardson’s turreted centerpiece. Vergason’s plan included space for five new buildings and one building expansion. Rain gardens help with on-site stormwater management, and the landscape architects designed seating areas for rest, study, and socializing with close attention to human scale and visual connections.

The landscape work involved extensive regrading that better aligns existing and new floor plates with the landscape. “Everything we built worked to that datum, and brought the landscape up to meet it, to create a quad that has a real sense of place,” Vergason says. “The buildings belong. It allows them to contribute to very active edges that are alive and transparent.”

Bridging the Style Gap

To create connections to the Cope and Stewardson campus core, the buildings flanking the northern edge of the new green are transitional in style. Jubel Hall, designed by Santa Monica, Calif.-based Moore Ruble Yudell Architects & Planners with local firm Mackey Mitchell Architects for the Mechanical Engineering & Materials Science department, is a three-story lab with brick elevations, punched windows, and stone detailing that hearken back to the Collegiate Gothic, while still operating with 21st-century efficiency. The building is targeting LEED Gold—Silver is the minimum requirement for new construction on campus—minimizing energy usage in part by bringing daylight deep into the floor plates. “Our aspirations are to take a broadly holistic and humanistic approach to high-performing buildings, to think about how that can support day-to-day quality of life,” says partner Buzz Yudell, FAIA. Jubel Hall will be joined in 2021 by a second transitionally styled building on the northern edge of the park, McKelvey, Sr. Hall, designed by Washington, D.C.-based Perkins Eastman.

A More Inviting Future

“We completed a student experience plan”—an effort led by Phoenix-based Studio Ma—“to hear from the

students what their priorities and challenges are on our campus. And frankly, the stone castles don’t make everybody feel welcome,” Kolker says, referring to the old Collegiate Gothic style. “First-year students that know nothing about architecture reach the conclusion that ‘I don’t feel comfortable walking into building X because I feel like it excludes, limits, and hides.’ Our campus is somewhat formal. We try to break that down at the East End, and we’re learning from it.”

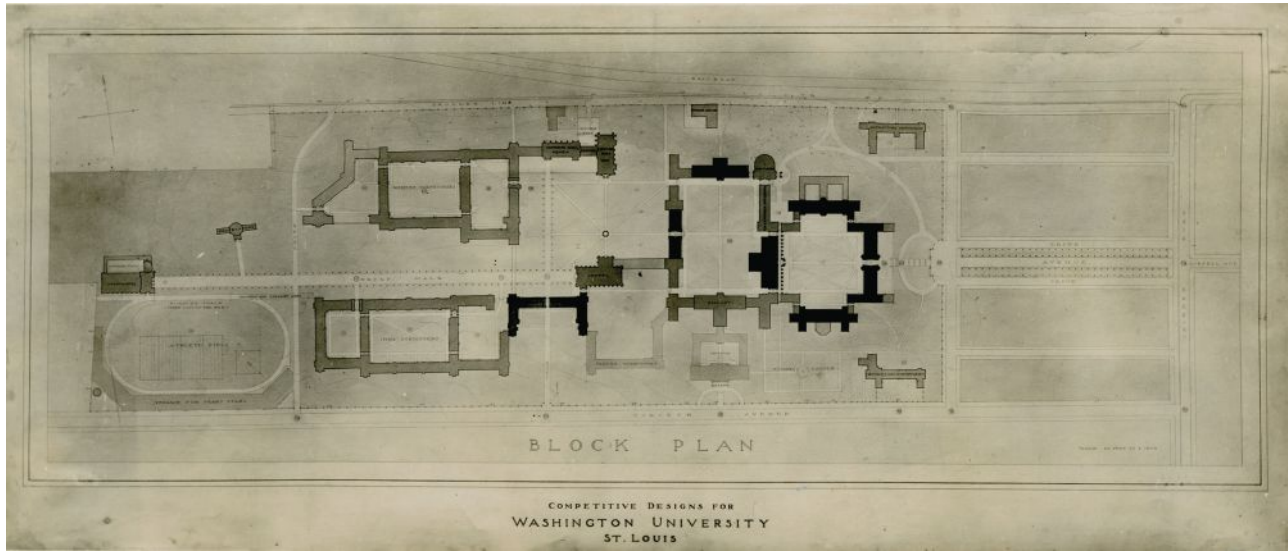
Part of that new informality is seen in the landscape, and in the social spaces within Jubel Hall and other transitional-style buildings. With the rest of the new buildings, along the west and south sides of Tisch Park, the desire to evoke informality and transparency is more literal. Philadelphia-based KieranTimberlake designed four structures that trade punched windows and masonry for glass walls and expressed metal shading. Two glazed pavilions—one for student services and the other for dining—frame the axial view to Brookings Hall, continuing in built form what the allée starts with trees. To the south, Weil Hall, KieranTimberlake’s new building for the architecture program, is a glazed structure with aluminum ribs of varied depths, tuned differently on each façade to shade the interior, while preserving views out and in. Next to Weil Hall, an expansion of the Kemper Art Museum required gallery space that precludes daylight for photosensitive artworks, so KieranTimberlake responded with an opaque façade of pleated, polished stainless steel that reflects the campus back to itself.

With that many buildings—all targeting at least LEED Gold—in such close proximity, partner James Timberlake, FAIA, says the goal was to make them “all work together as a community of new buildings, yet also make the other buildings around them better. There’s this oscillation between that new language and the existing one, and the glass buildings become a logical extension, creating something unique while still being very much part of Washington University.”

Next Steps

With 2020 upon us, Webber says the university is very close to achieving the GHG reduction goals laid out a decade ago: “We’re on track to achieve it—we were 97% of the way there last year. Now we have to set the next goal.” Kolker, as campus architect, looks forward to finding that next target. “It’s fascinating that in 1899, a couple of guys in Philadelphia came up with this plan that has served us well for 120 years,” he says. “Are we going to be able to do that for the next 120, or has the increment of change compressed such that we can’t plan for the next 100 years, let alone the next 10? What’s next is a real turning point for us.”

1899 Cope and Stewardson Campus Plan



Project Credits

Project: East End Transformation
Client: Washington University in St. Louis
Construction Cost: \$280 million

Projects: Anabeth and John Weil Hall, Mildred Lane Kemper Art Museum Expansion, Gary M. Summers Welcome Center, Craig and Nancy Schnuck Pavilion
Architect: KieranTimberlake, Philadelphia · James Timberlake, FAIA, Richard Maimon, FAIA, Marilia Rodrigues, AIA, Kate Czembor, AIA, Adam Loughry, AIA, Nick Sillies, AIA, Charles Sparkman, AIA, Jeremy Leman, Jazz Graves, AIA, Claire Edelen, AIA, Brian Kerr, Suzanne Mahoney, AIA, Patrick Morgan, AIA, Ryan Wall, AIA (project team)
Local Architect: Tao + Lee Associates

FFE: Arcturis
Structural Engineer: KPFF Consulting Engineers
MEP Engineer: BuroHappold Engineering, with KAI Engineering
Central Utilities MEP Engineer: McClure Engineering
Civil Engineer: Cole
Geotechnical Engineer: Geotechnology
Construction Manager: McCarthy Building Cos.
Landscape Architect: Michael Vergason Landscape Architects with Arbolope Studio
Lighting Designer: Fisher Marantz Stone
AV Consultant: The Sextant Group
Code Consultant: Code Consultants

Façade Consultant: Eckersley O'Callaghan & Partners
Acoustics: Metropolitan Acoustics
Soils and Irrigation: Jeffrey L. Bruce & Co.
Campus Mobility: Schulze+Grassov
Cost Estimator: The Capital Projects Group
Food Service: Webb Foodservice Design
Waterproofing: Wiss, Janney, Elstner Associates
Graphics: Kuhlmann Leavitt
Specifications: Heller & Metzger
LEED Administration: Sustainable Design Consulting
Size: 80,670 gross square feet (Weil Hall); 5,600 gross square feet (Kemper); 25,500 gross square feet (Summers); 18,000 gross square feet (Schnuck)

Project: Henry A. and Elvira H. Jubel Hall
Architect: Moore Ruble Yudell Architects & Planners, Santa Monica, Calif. · Buzz Yudell, FAIA, John Ruble, FAIA, Michael Martin, FAIA, Neal Matsuno, AIA, Stanley Anderson, AIA, Lani Lee, AIA, Clover Linné, AIA, Jason Pytko, AIA, Philippe Arias, Ruth Ortega, Alise Romero (project team)
Associate Architect/Specifications: Mackey Mitchell Architects, St. Louis · Gene Mackey, Marcus Adrian, AIA, Daniel Schneider, AIA, Erik Pizsar, Greg Keppel, AIA, Jake Banton, AIA, Caitlin Siem, John Brown, AIA, Marina Curac (project team)
FFE: Moore Ruble Yudell Architects & Planners

Structural Engineer: Alper Audi
MEP Engineer: BuroHappold Engineering with KAI Engineering
Central Utilities MEP Engineer: McClure Engineering
Civil Engineer: Cole
Geotechnical Engineer: Geotechnology
Construction Manager: McCarthy Building Cos.
Landscape Architect: Michael Vergason Landscape Architects with Arbolope Studio
Lighting Designer: Horton Lees Brogden Lighting Design
AV Consultant: The Sextant Group
Code Consultant: BuroHappold Engineering
Acoustics/Vibration: Acentech
Soils and Irrigation: Jeffrey L. Bruce & Co.
Cost Estimator: The Capital Projects Group
Waterproofing: Wiss, Janney, Elstner Associates
Graphics: Kolar Design
LEED Administration: Sustainable Design Consulting
Size: 84,000 gross square feet

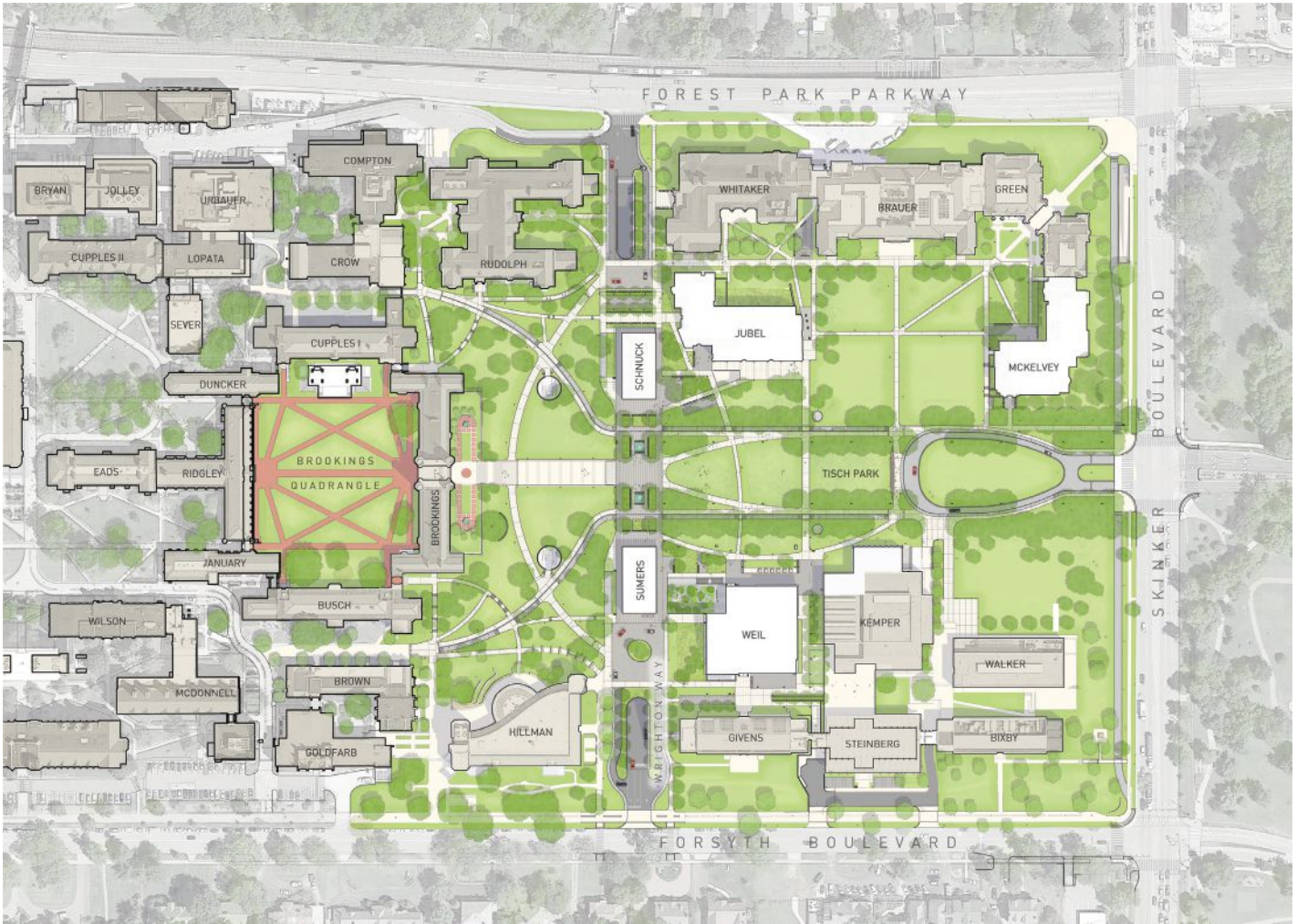
Project: Ann and Andrew Tisch Park
Landscape Architect: Michael Vergason Landscape Architects, Alexandria, Va. · Michael Vergason (principal-in-charge); Beata Boodell Corcoran (project manager); Doug Hays (principal); Matt Johnston (project captain); Matt Sickle,

Kameron Aroom, Don Partlan, Simon Lin (landscape architects)
Local Landscape Architect: Arbolope Studio
Soils Consultant: James Bruce Co.

Project: Underground Parking Garage
Architect: KieranTimberlake and BNIM
Architect of Record: BNIM, Kansas City, Mo.
KieranTimberlake Team: James Timberlake, FAIA, Richard Maimon, FAIA, Marilia Rodrigues, AIA, Kate Czembor, AIA, Adam Loughry, AIA, Nick Sillies, AIA, Charles Sparkman, AIA, Jeremy Leman, Jazz Graves, AIA, Claire Edelen, AIA, Brian Kerr, Suzanne Mahoney, AIA, Patrick Morgan, AIA, Ryan Wall, AIA
BNIM Team: Steve McDowell, FAIA, James Pfeiffer, AIA, Craig Scranton, AIA, John Collier, AIA
Structural Engineer: KPFF Consulting Engineers, with Desman
MEP Engineer: Integral Group
Vertical Transportation Consultant: Kenneth H. Lemp Elevator Consultant
Size: Approx. 274,000 gross square feet

Project: James M. McKelvey, Sr. Hall (still under construction)
Architect: Perkins Eastman, with Patterhyn Ives
Size: 86,500 gross square feet

New East End Master Plan



South-North Site Section



Opposite: The 1899 block plan by Cope and Stewardson left the east end of campus unprogrammed, save for an allée of trees.

Above: The new East End master plan moves existing surface parking below grade, preserving the allée, restoring green space, and adding a spate of energy-efficient new buildings.

Tisch Park is the central green space in the East End plan. Round skylights embedded in the grass allow natural light to filter into the parking garage below, and the use of five different types of blended soils contribute to resilience, horticultural health, and moisture retention that delays the release of stormwater and filters water from the site. The landscape design also introduces a much greater diversity of plants than were previously on-site, and the new allée of trees will provide shade as they grow, while maintaining the focus on historic Brookings Hall.





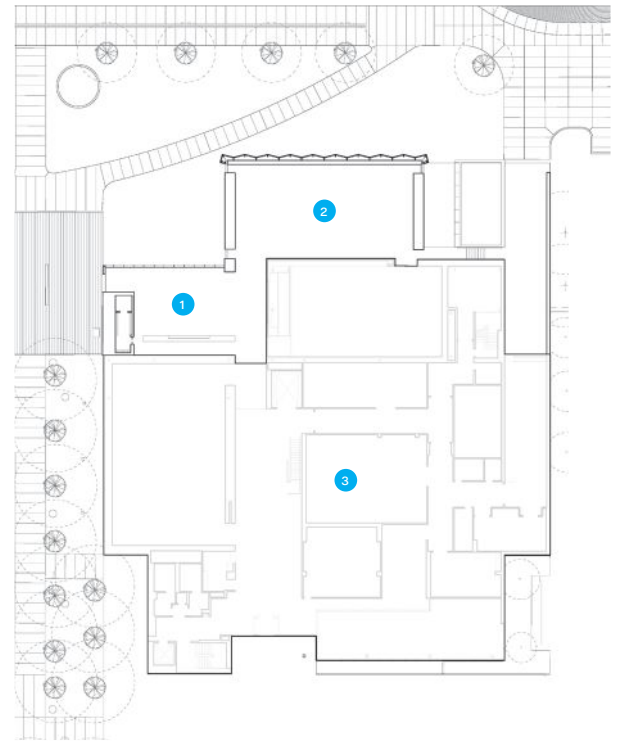
Mildred Lane Kemper Art Museum Expansion KieranTimberlake, with Tao + Lee Associates



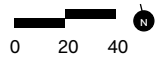
Appropriation Art
Appropriation art is a form of visual art where the artist uses pre-existing objects or images to create new works. This practice often challenges traditional notions of authorship and originality. In the 1960s and 1970s, artists like Marcel Duchamp, Joseph Kosuth, and Sherrie Levine used everyday objects and mass media images to create their art. This movement was a key part of the postmodernist art scene, questioning the boundaries between art and life, and the role of the artist as a creator.



Ground-Floor Plan



- 1. Entrance lobby
- 2. Gallery expansion
- 3. Existing museum



Floor-to-ceiling slit windows admit some daylight into the new, 2,700-square-foot postwar and contemporary gallery. The museum houses one of the oldest teaching collections in the country.

The glazed and reflective stainless steel façade of the Kemper expansion (at left) and the all-glass north elevation of Weil Hall (at right) activate the southern edge of Tisch Park and contribute to the transformative transparency that the master plan sought to achieve.

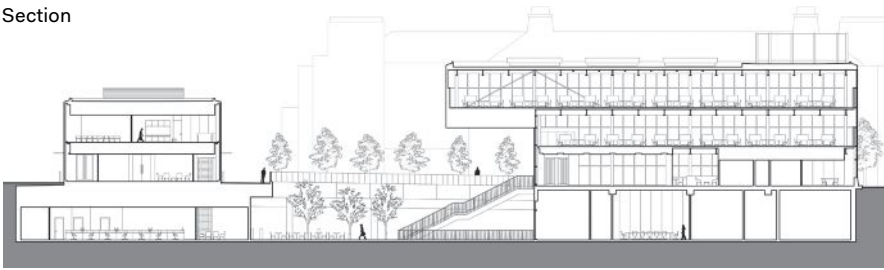




**Anabeth and John Weil Hall
KieranTimberlake, with Tao + Lee Associates**



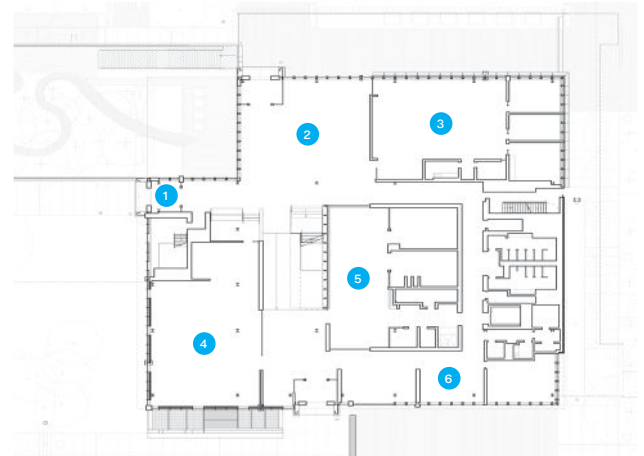
Section



Second-Floor Plan



Ground-Floor Plan



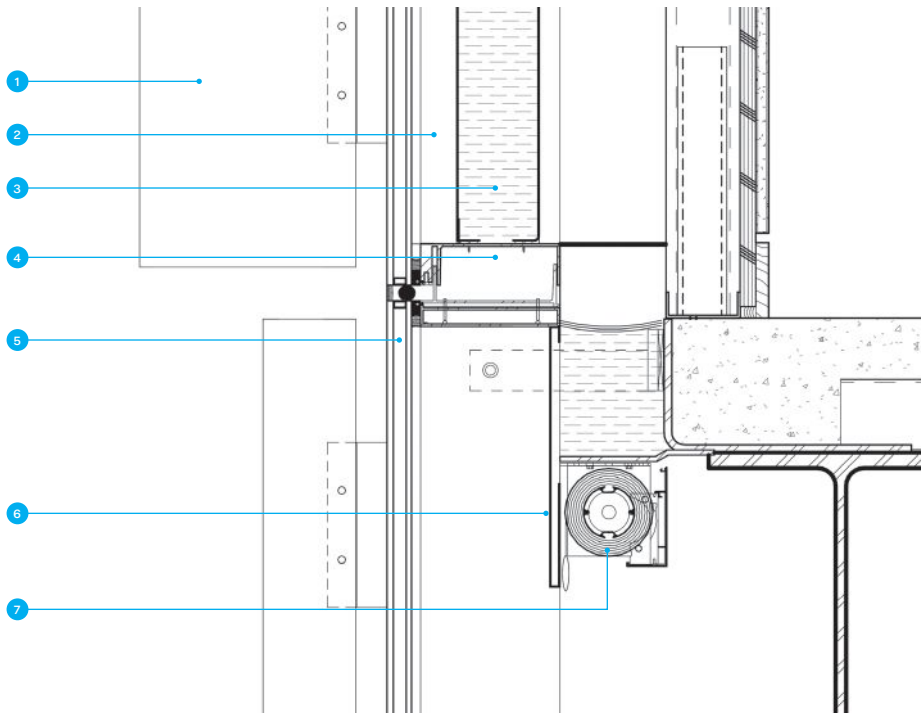
Opposite: In the new architecture school building, Weil Hall, a second-floor atrium boasts an interior landscape with a green wall and a shade canopy to filter daylight over the study areas to control glare.

Above: KieranTimberlake used its Tally software for material selection, but also worked closely with the contractor to consider the embodied carbon of materials. "We originally thought that these would be poured-in-place frame buildings, but McCarthy worked with us to lighten them and make them steel buildings, sitting up above the concrete foundation," says partner James Timberlake.

- 1. Entrance
- 2. Commons
- 3. Dean's suite
- 4. Studio
- 5. Fabricate lab
- 6. Seminar
- 7. Atrium
- 8. Graduate studios



Curtain Wall Section Detail



1. Aluminum shade fin
2. Aluminum spandrel panel with metal back pan
3. Mineral wool insulation
4. Aluminum horizontal mullion
5. Glazing
6. Aluminum spandrel panel
7. Motorized roller shade

0 5" 10"



Left: Studios in Weil Hall. The abundant use of glass is “the right message to be sending because you’re handling all the [concerns about] the transparency necessary for academic expression and light for art and making architecture,” Timberlake says.

Opposite: Aluminum fins on the Weil Hall exterior were carefully modeled, and are varied from floor to floor and façade to façade to maximize views while providing maximum shading for the glazing to minimize energy usage.

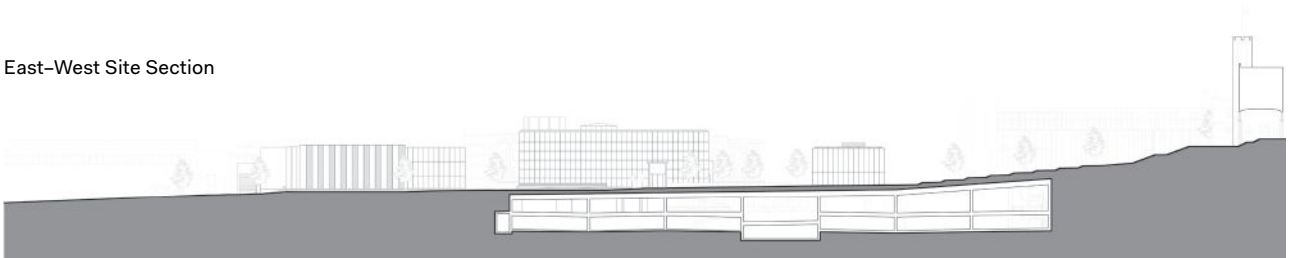


Underground Parking Garage BNIM and KieranTimberlake





East–West Site Section



0 40 80

Opposite: Daylight enters the garage through a punched entrance that lead to Tisch Park. “Keeping the bottom of the slab as flat as possible so the light could graze across” brings the light deeper into the space, BNIM director of design Steve McDowell says.

Above: The garage wears many hats—as a parking structure, covered circulation, and as a venue for movie screenings, receptions, and other events—and can be converted to future classroom space (which will provide embodied carbon savings over new construction).

A person bikes past the south entrance to the underground parking structure on one of many new cycling paths. Cars are now banned from the center of the East End, with all of the former surface parking lots reclaimed as green space.





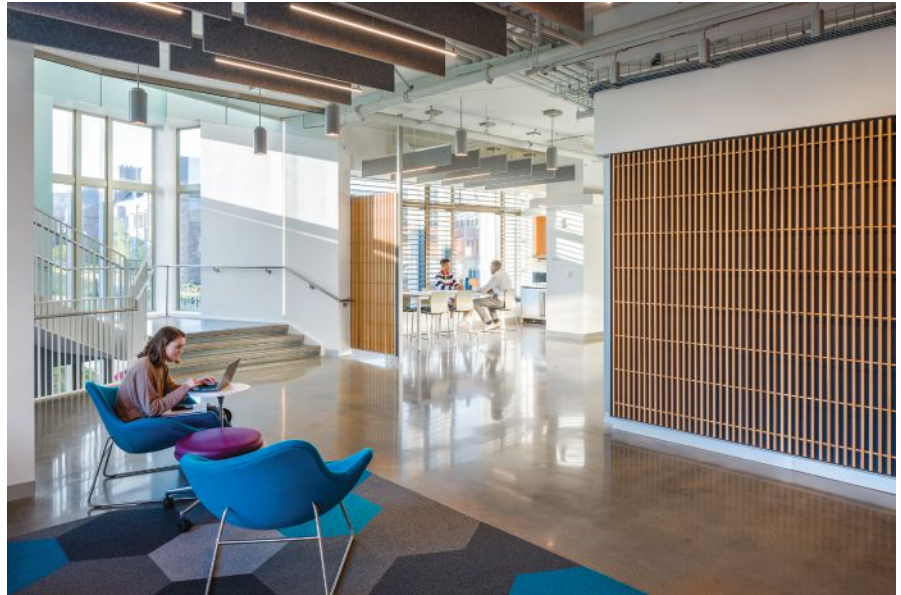
→ Student Welcome Center
→ Student Housing
→ Student Services Center

WRIGHT

CLYDE ARCHITECTS

**Henry A. and Elvira H. Jubel Hall
Moore Ruble Yudell Architects & Planners,
with Mackey Mitchell Architects**





Ground-Floor Plan



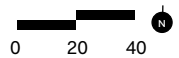
Third-Floor Plan



Opposite: Jubel Hall's transitional, masonry west façade nods not only to the Collegiate Gothic campus, but also to the vocabulary of two other MRY projects on campus, while the glazed entrance echoes KieranTimberlake's Schnuck Pavilion (at right).

Above: Inside Jubel Hall, all of the labs, offices, and shop areas are knitted together with a “connective tissue of social spaces,” says MRY partner Buzz Yudell, creating informal environments for students and faculty to collaborate.

- 1. Entrance
- 2. Faculty offices
- 3. Classroom
- 4. Machine shop
- 5. Maker space
- 6. Future lab space
- 7. Lab

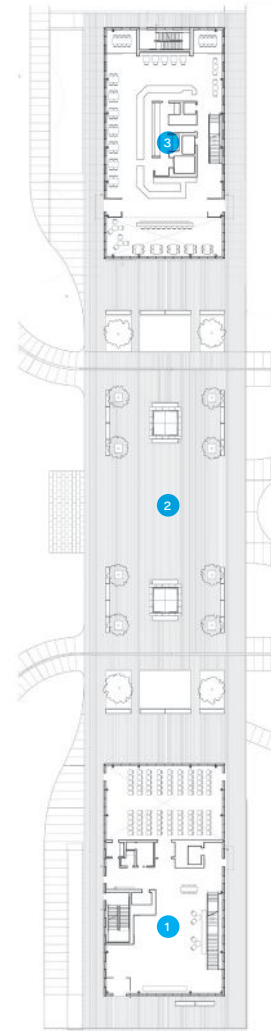


**Gary M. Sumers Welcome Center and Craig and Nancy Schnuck Pavilion
KieranTimberlake, with Tao + Lee Associates**





Ground-Floor Plan



- 1. Welcome Center
- 2. Social space
- 3. Café

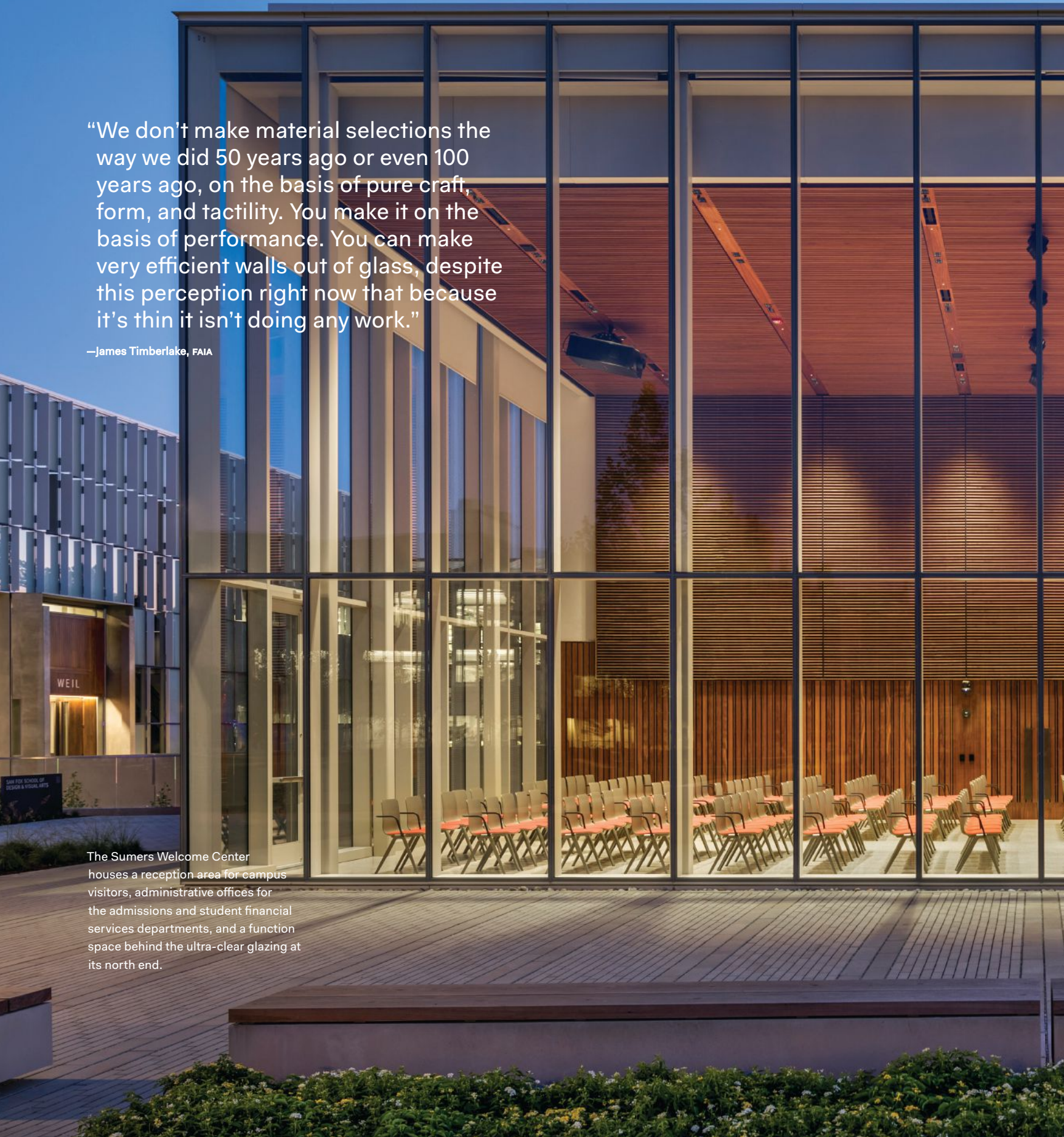


The Schnuck Pavilion (seen across Tisch Park from the interior of the matching Summers Welcome Center) houses a dining hall and offices. The low-iron glazing achieves maximum visual transparency, while fritting and metal backing plates behind some of the glass reduce the overall building transparency from 100% to 50%, helping to control energy use and heat gain.

“We don’t make material selections the way we did 50 years ago or even 100 years ago, on the basis of pure craft, form, and tactility. You make it on the basis of performance. You can make very efficient walls out of glass, despite this perception right now that because it’s thin it isn’t doing any work.”

—James Timberlake, FAIA

The Sumers Welcome Center houses a reception area for campus visitors, administrative offices for the admissions and student financial services departments, and a function space behind the ultra-clear glazing at its north end.



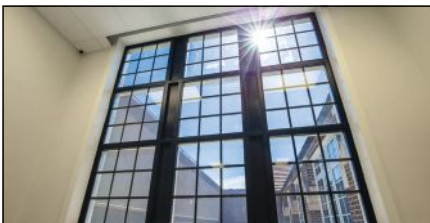




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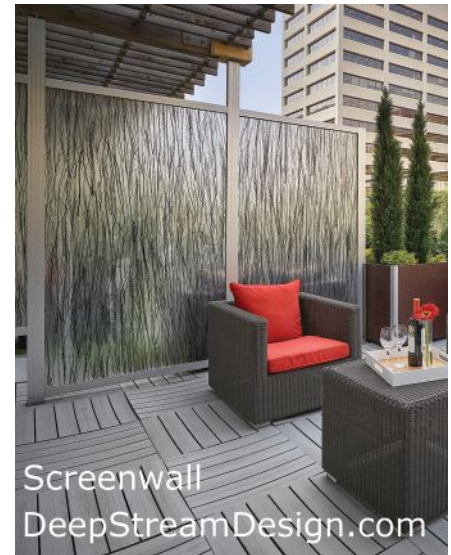
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Editorial: In a War With Nature

Over the winter break, I crossed a major destination off my bucket list: Mexico City. The architecture is fabulous, of course: new high-rises on the Paseo de la Reforma, the classic midcentury UNAM campus, the fin-de-siècle Palace of Fine Arts. Urbanistically, it's a bona fide megalopolis, larger than any metro area in the U.S. It's also far older than we Yanquis are accustomed to, given our sense that things didn't really get going on this side of the Atlantic until about 1776. In Mexico City, est. 1325, you can take the long view.

As in Rome, history reveals itself through odd adjacencies and superimpositions of buildings from different periods. The architectural juxtapositions are doubly strange because so few built surfaces meet at a right angle. The city is located near the convergence of three tectonic plates and directly upon a onetime lake, slowly drained over time, causing periodic earthquakes and perpetual subsidence. In some areas the ground sinks more than an inch per month, exacerbated by the siphoning of groundwater for 21 million people.

At the Catedral Metropolitana de la Asunción de la Santísima Virgen María a los Cielos, or Metropolitan Cathedral—a giant palimpsest of imported styles that took 250 years to complete—the piers have settled into a visibly drunken slant of 2 degrees. That the vaults above haven't collapsed seems a miracle.

The stones of the Metropolitan Cathedral came from the temples and palaces of Tenochtitlán, the Aztec city-state, which Spanish invaders sacked in 1521 and then reinvented as their viceregal capital. In 1978, an electric company dig uncovered the remains of the colossal double-pyramid about a football field away.

The Aztecs built their temples in characteristic Mesoamerican fashion, successive generations subsuming their predecessors' structures within new, larger encasements. Six of the Templo Mayor's seven sequential layers of construction are now exposed to view, as a literal cross-section through time. The innermost temple platform, the site of so many human

sacrifices, slants at an even more alarming angle than the cathedral.

The Aztecs also worshipped at an abandoned pyramid complex a day's walk away, which they called Teotihuacán or, roughly, "birthplace of the gods." They felt the same awe for these ruins that Renaissance Europeans did for the monuments of ancient Rome, collecting artifacts from the site and claiming descent from its builders.

Teotihuacán flourished from before the time of Christ into the sixth century. Its people did not develop writing in the narrative sense, so their history remains a matter of conjecture. The archaeological record suggests that after extending its influence across much of Mesoamerica, Teotihuacán collapsed in spectacular fashion, with a protracted drought around 535–536 precipitating famine, violent revolt against the ruling elite, and ultimately the city's abandonment.

Mexico City has always lived at odds with nature. In the 17th century, there was even a serious bid to relocate, but rich property owners stopped it. Today the prospect of resettling such an enormous population seems unthinkable, yet in the coming decades many cities and nations will face a similar choice between fight and flight, as the effects of a warming climate render them uninhabitable. Nature usually wins.



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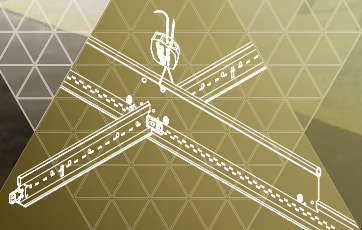
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