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# A Contents

Volume 109, number 3, March 2020.

On the cover and this page: Bay State Commons Cohousing by French 2D

- 12 The Architectural League's 2020 Emerging Voices
- 14 The First Lady of Pakistan
- 16 Cleaner Living in the Netherlands

## Tech + Practice

- 18 Best Practices: Disclosing Your Disability at Work
- 20 Opinion: Business First, Break Through Second
- 22 Products: Concrete Furniture and Finishes
- 24 Next Progressives: Could Be Architecture
- 28 Residential: Villa Varoise, NADAAA
- 35 Typology: Electricity Substation, Virkkunen & Co

## AIA Architect

- 43 A New Kind of Profession
- 45 Architects' Increase in Income: 2017 to 2019
- 46 Making Space for Innovation
- 50 Rehabbing the Future
- 52 Leading From Behind No More

## Columns

- 55 Updating Bertrand Goldberg's Wright College  
by Zach Mortice
- 67 Inside the Closing of Taliesin's Architecture School  
by Reed Karaim

## Editorial

- 104 The Return of Redlining  
by Ned Cramer



## 76 The 67th Progressive Architecture Awards

- 78 Bay State Commons Cohousing  
Malden, Mass.  
French 2D
- 80 Richard Gilder Center for Science,  
Education, and Innovation  
New York  
Studio Gang
- 84 Elsewhere Hudson Valley  
Livingston, N.Y.  
WOJR
- 88 Mennello Museum of American Art  
Orlando, Fla.  
Brooks + Scarpa
- 92 Chouteau Greenway Framework Plan  
St. Louis  
Stoss Landscape Urbanism
- 96 Edmonton Valley Zoo Children's Precinct —  
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# Picture Perforated

The first academic building to open on Cornell Tech's Roosevelt Island campus, the **Emma and Georgina Bloomberg Center** aims for net-zero energy performance, a mission that drives its advanced aesthetics. Designed by **Morphosis**, its facade of pixelated perforated aluminum and curved glass provides both thermal protection and inspiration for a new generation of research. Read more about it in **Metals in Construction** online.

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The Journal of The American  
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# Super Mario

The Tappan Zee Bridge, revolutionary in its day, was well past the end of its operational life. Replacing it with the new **Governor Mario M. Cuomo Bridge**, a span of more than three miles across the Hudson River, required erecting a structurally complex cable-stayed design with careful attention to the river ecosystem. The resulting “smart bridge” takes an active role in monitoring its own performance while carrying traffic—a triumph that will benefit the Hudson Valley for generations to come. Read more about it in **Metals in Construction** online.

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### **The Architectural League's 2020 Emerging Voices**

And the Voices are ... Marc Blouin and Catherine Orzes of Blouin Orzes (Montreal); Brandon Dake, FAIA, and Andrew Wells, FAIA, of Dake Wells Architecture (Springfield and Kansas City, Mo.); Lazbent Pavel Escobedo Amaral and Andrés Soliz Paz of Escobedo Soliz (Mexico City); Casper Mork-Ulnes of Mork Ulnes Architects (San Francisco and Oslo, Norway); Olalekan Jeyifous (New York); Miriam Peterson, ASSOC. AIA, and Nathan Rich, AIA, of Peterson Rich Office (New York); Christopher Marcinkoski, AIA, and Andrew Moddrell, AIA, of Port (Chicago and Philadelphia); and Bryan Young, AIA, of Young Projects (New York). —MADELEINE D'ANGELO

> Learn more about Young Projects' P/A Award-winning Glitch House (pictured) and the work of all the Emerging Voices architects at [bit.ly/2020EmergingVoices](https://bit.ly/2020EmergingVoices).



Project: New York Investment Firm. Lighting Designer: SBID Studio. Architect: Studios Architecture. Photograph: @Bilyana Dimitrova © 2020 USAI Lighting. All rights reserved.

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### **The First Lady of Pakistan**

Pakistan's first female architect, Yasmien Lari, is the 2020 recipient of the Jane Drew Prize for women in architecture, organized by *The Architectural Review* and *The Architects' Journal*. Born in 1941, Lari studied architecture in the U.K. then opened a firm back home with her husband. Her work includes the Taj Mahal Hotel and Pakistan State Oil House in Karachi, Anguri Bagh Housing in Lahore, and several books. Since retiring from practice in 2000, Lari has served as an adviser to UNESCO and executive director of Heritage Foundation Pakistan, and she also founded Karavan, a nonprofit that organizes street festivals. —KATHARINE KEANE

> To read more about Lari and watch an Al Jazeera news profile of her, visit [bit.ly/YasmienLari](https://bit.ly/YasmienLari).



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### Cleaner Living in the Netherlands

Amsterdam-based design firm Marco.Broekman has revealed plans for Merwede, a 60-acre, car-free development along a canal in Utrecht, Netherlands. The forthcoming mixed-use district, previously an industrial zone, will feature over 200 buildings and 6,000 residential units, with an emphasis on green space and clean energy. The firm characterizes its scheme as “the culmination of a series of city blocks that are composed of multiple buildings varying in both width and height,” while the city calls it “healthy, energy-neutral, and climate-proof.” With vehicle access restricted, Merwede will offer pedestrian and bicycle routes for residents. —K.K.

> Read Architecture 2030's policy prescription for net-zero energy and net-zero carbon at [bit.ly/AchievingZero](https://bit.ly/AchievingZero).



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# Best Practices: Disclosing Your Disability at Work

TEXT BY JEFF LINK

A disability can be a sensitive topic to discuss with your manager or human resources department. Here, designers and architects from several firms and an attorney discuss how to disclose any disabilities at work.

## Know Your Rights

Before speaking with a prospective or current employer about your disability, you should understand your legal rights and protections. Eve Hill, a disability rights attorney at Baltimore-based Brown, Goldstein & Levy, cites Title 1 of the American with Disabilities Act of 1990, which prohibits employers with 15 or more employees from discriminating against “qualified individuals with disabilities in job application procedures, hiring, firing, advancement, compensation, [and] job training.”

John Gleichman, AIA, an architect and specifications writer at Chicago-based Sheehan Nagle Hartray Architects who is blind, further recommends consulting a firm’s employee handbook and guidelines developed by the U.S. Equal Employment Opportunity Commission, an agency that interprets and enforces Title 1.

## Communicate Your Needs

Often the best way to talk with an employer is to be honest and direct about the accommodations you need, which will then ideally lead to a collaborative solution, says Greg Wharton, AIA, an associate director and principal at Toronto-based architecture

and engineering firm IBI Group. Wharton describes himself as profoundly hearing impaired. Earlier in his career, he decided to conceal his hearing loss from his colleagues. He says his own embarrassment about his limitations ended up hurting his relations with his employer and led him to miss instructions. Because his colleagues were unaware he had hearing limitations, Wharton realized, many perceived him as stupid, cavalier, or arrogant.

Wharton opted to be more open with subsequent employers, even requesting several months of medical leave for a

“As someone who is seeking a career and has some form of impairment, you bring so much perspective to this profession.”

—David Gissen, visiting professor of architectural design, Yale University

cochlear implant while working at a global architecture firm based in Seattle. “I was missing things in conversation and struggling to keep up,” he says. Wharton’s supervisor responded positively, saying, “We’ll work out a schedule, and work out what you need to do; don’t worry about it. We’ll talk to HR and get the wheels in motion.”

For Gleichman, who was diagnosed with a degenerative eye disease in his late 30s, requesting alternative accommodations and purchasing accessibility hardware and software have been key to sustaining his employment. Initially, Gleichman purchased these products himself. As cultural attitudes changed and his condition deteriorated, he decided to approach management. “Now the office purchases these products for me, and we talk about what I’m doing and what I need,” he says. Together, they forged a plan that allowed him to choose projects accessible via taxi or mass transit so he doesn’t have to drive. He also relocated to a workspace that receives little daylight, which aggravates his eyes.

## Make an Impact

Designers with disabilities can influence the development of the built environment industrywide. David Gissen, a visiting professor of architectural design at Yale University who became an above-the-knee amputee in the early 1990s, recently taught a course inspired by his own experience navigating shadeless boulevards in a wheelchair during a heat wave in Vienna. Gissen called on students to re-examine Modernism’s preference for sun exposure. “As someone who is seeking a career and has some form of impairment, you bring so much perspective to this profession that is badly needed,” he says. “[It’s] a real benefit to the design of buildings and the built environment.”



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# Opinion: Business First, Break Through Second

TEXT BY CURTIS MOODY, FAIA



When I started my practice 38 years ago, my goal was to survive in a profession largely devoid of minorities. I dreamed of creating great design, but I also had business matters to square away: building up my firm's credentials and establishing relationships for repeat work so I could pay my bills and, more importantly, my staff. Most architects can relate to that dilemma. As an African American architect, however, I was paving new roads.

After graduating from Ohio State University, I worked for several firms. However, I never had a mentor who looked like me. In hindsight, I realize such a mentor may have helped steer me away from some hard knocks, such as teaming with firms that only want to appear to meet MBE (minority business enterprise) goals, but have no intention of actually doing so.

Before I went out on my own, I took on small clients, with my employer's approval, to start what would become Moody Nolan. My partner, African American structural and civil engineer Howard Nolan, and I won projects because of our skill sets, yes—but also because we were willing to charge less than our competitors. I wish I could say we had a choice in charging fair market value, but we didn't at the time.

In terms of diversity in architecture, we were it for a long time. We wanted to make Moody Nolan the business we wanted it to be. Our mission wasn't to go it alone as African Americans, but to be the best we could be with the best talent. We looked for people who wanted to be part of a firm that embraced all ethnicities and genders (women were also undervalued in the profession).

When we were denied opportunities due to outright or latent discrimination, some of our white staff members were the most shaken: They were not accustomed to such treatment. However, we got smarter and doubled down. We began explaining to prospective clients that our team better reflected the diverse populations that they served. (It is widely known now that better solutions result from an array of perspectives, but this was not the case 30 years ago.) Our approach led us to win projects from clients who years before would not have considered us.

We continue to prioritize and set goals for diversity in our firm: You can't achieve what you don't plan and measure. Today, our firm leadership is 35% women and 20% minority. Our staff represents 12 countries and speaks more than 15 languages.

We've also learned to become nimble. The 2008 economic downturn was hard on the entire industry, but we survived by not turning away from projects that other firms ignored. We became generalists instead of specialists. We put our clients' needs

first, regardless of project type or size. Currently, we specialize in many market segments, but we had to regain that luxury over time.

Ten years ago, I decided to transition from my role. It was essential that I be proactive, or time would get away. This year, I officially turned our firm's leadership over to my son and fellow design architect Jonathan Moody, AIA.

Staying with the firm as chairman, I can now serve more clients as their lead designer and return to my original passion of creating great architecture. I'll also help our firm achieve its new goals and aspirations, centered on continued growth in size and markets, most likely through acquisitions. While serving our current clients will always be our first priority, we are also in the position of seeking new clients who value high design that demands greater creativity in all of their projects.

Once upon a time, I set out to show the profession and the greater public that an African American firm could exist, thrive, and design significant architecture. Today, I have hope that I'll be remembered for my contributions not as an African American architect, but as an exceptional architect.

*Curtis Moody, FAIA, is the founder and board chairman of Moody Nolan, headquartered in Columbus, Ohio.*

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# SIMPLICITY ON DISPLAY

How to gain efficiency through minimalistic envelope design.



Since its early beginnings nearly a century ago, minimalist design has gone from an artistic movement to a way of life, proving the philosophy's staying power. The minimalistic principles of simplistic utility can benefit a building's structure. Are you maximizing the opportunities for minimalistic design beyond the façade—where clients readily see it—to within its very wall assembly? Here's how.

## "LESS IS MORE"

The influential architect who popularized the "Less is More" axiom at the heart of Minimalism, Ludwig Mies van der Rohe, honed his style to what he called "skin and bones"—prioritizing structural order and free-flowing space. What do you get when you remove all ornamentation and excess materials from your design? Iconic buildings like Mies's sleek Seagram Building in

New York City and his Farnsworth House nature retreat in Illinois, both of which stand the test of time.

Originating from post-World War I austerity, minimalist architecture focuses on reducing a design framework to its most necessary elements and cutting out the rest, stripping the design down to its most essential form and functionality.

There's a reason minimalism still garners interest today: efficiency ... of materials, of structural balance, and of overall visual interest. Simplifying the wall assembly design bears the same results.

## SIMPLIFY THE PROCESS, SIMPLIFY THE RESULTS

Like Minimalism's initial rejection of previously popular lavish decorative styles, eliminating excess from the wall assembly itself is now also turning heads. What happens when you reduce the envelope

to its most essential aspects? To start, you have fewer materials, fewer needs for skilled labor, and efficient time and cost savings.

One area that is currently innovating structural simplicity is in weatherproofing. Whereas past designs have relied on layering separate water-resistant barrier and air barriers (WRB-ABs) onto the sheathing before installing the cladding, today's minimalistic approach incorporates the WRB-AB into the sheathing, with fully compatible accessories, to eliminate excess materials and installation needs while delivering a reliable end result.

By carrying over the same emphasis on simplicity and structure, you can maximize utility of the materials you choose. Extend a minimalistic philosophy into your envelope design by developing a wall assembly that ensures an easy and accurate transition from design through constructability.

To create a unified sheathing and waterproofing system, select compatible products that will ensure WRB-AB continuity by providing a complete single-source water- and air-control system that's also compatible across today's leading cladding styles for a sharp minimalistic finish.

Already tested and compatible across the wall assembly, DensDefy Accessories are easy to specify as part of the envelope structure. DensElement Barrier System provides a gypsum sheathing with the WRB-AB built in, and DensDefy Liquid Flashing completes the system by sealing all joints and seams. Then DensDefy Transition Membrane covers any joints, gaps, and distinct transitions as needed.

See how carrying over minimalistic simplicity to your envelope design and functionality also benefits the building's designer, contractor, owner, and end user.

To learn more about how DensDefy Accessories can simplify the envelope on your next minimalist design, visit [densdefy.com](https://densdefy.com) and request a demo kit.



# Products: Concrete Furniture and Finishes

TEXT BY KATHARINE KEANE



## Capsule Bench, Sunpan

Conceived by Miami-based designer Stacy Tao, this sealed concrete ovoid bench for indoor and outdoor environments is newly available in white. The 59"-long, 18"-deep, and 205-lb seat can support 500 pounds. [sunpan.com](http://sunpan.com)



## Arctic Hewn, Cultured Stone

Available in the company's Hewn Stone line of veneered stone, this new white hue is intended to brighten traditional and contemporary spaces. Available in sizes 3" to 8" tall and 8" to 22" long. [culturedstone.com](http://culturedstone.com)



## O, Bentu

Inspired by the Colosseum, these decorative wall tiles feature a porous surface and a spherocylindrical form in relief. Composed of concrete and tile-waste aggregate, each 37-lb panel measures 47" by 23". [bentudesign.com](http://bentudesign.com)



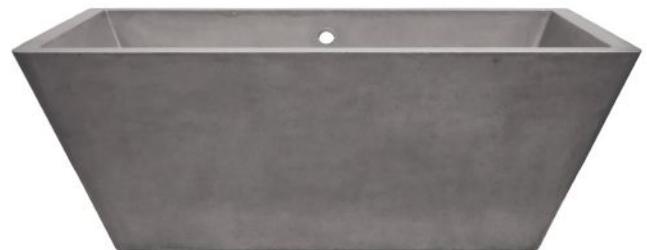
## Su, Emeco

Six years after launching the Su stool, designed by Nendo, Emeco is adding a recycled concrete seat option to this line. Available in 18½", 24", and 30" heights with a black aluminum, aluminum, or wood frame. [emeco.net](http://emeco.net)



## Overflow, Nood

This collection of compact concrete sink designs offers 14 color options. About 85% of the concrete for each sink is in the company's proprietary mix, which takes 96% less energy to create than ceramic alternatives. [noodco.com.au](http://noodco.com.au)



## Mendocino, Native Trails

Launching this spring, the geometric, 21"-deep, freestanding tub angles outward and can hold 88 gallons of water. Made with jute fiber and cement, the tub's thick walls help retain the heat of bathwater. [nativetrailshome.com](http://nativetrailshome.com)

> For more on these concrete products, visit [bit.ly/ARConcreteProducts](http://bit.ly/ARConcreteProducts).



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# Next Progressives: Could Be Architecture

EDITED BY KATHARINE KEANE

**Location:**  
Chicago

**Year founded:**  
2015



**Firm leadership:**

Zack Morrison and Joseph Altshuler

**Education:**

*Morrison:* B.S., University of Illinois at Chicago; M.Arch., Rice University;  
*Altshuler:* B.S., University of Illinois at Urbana-Champaign; M.Arch., Rice University

**Firm size:**

Two-plus

**Mission:**

We design seriously playful spaces, things, and happenings.

**Origin of firm name:**

"Could be" embodies the optimism that underpins our practice. Similar to the "yes, and ..." mantra in improv theater, "could be" propels us to produce work that approaches existing and future worlds from an emphatically positive position, embracing an attitude that our worlds could be more joyful, engaging,

inclusive, and maybe even funny. The open-ended nature of the phrase "could be" also reminds us to continually challenge, expand, and amplify the potential audiences for architecture.

We're equally interested in the possibilities of "conventional" architectural design as we are in exhibitions, events, costumes, furniture, toys, books and zines, supergraphics, and fiction writing. We're eager to uncover how other delivery formats "could be" amplified by architectural exploration and performance.

**First commission:**

The design of new public restrooms within Beth Tikvah Congregation, an existing synagogue in Hoffman Estates, Ill. We were thrilled to take this on because there is no architectural moment more intimate and engaged with the body than a bathroom. Our modest design features cascading patterns of ceramic wall tile to generate visual intrigue and dynamic sightlines within the otherwise constrained footprint. Our graphic strategy for the tile and mirrors produces unexpected alignments and novel reflections, while limiting overall material use.

**Favorite project:**

Our design for the Twisted Hippo Taproom and Eatery in Chicago's Albany Park neighborhood radically transformed an existing space to create identity and cultivate community for the brewery. By positioning vibrantly

colored supergraphics and flora within a cavernous interior, the design deploys a budget-conscious strategy and material set to articulate a series of companionable "little worlds," each with their own specificity, intimacy, and character. The project bolstered our belief that the precise articulation of bold color produces more than an aesthetic: It stages a performance of bodies in space, giving license to people to suspend a bit of their everyday routine and engage in serious play and interaction. A little lubrication from the libations brewed on-site helps as well.

**Special item in your studio space:**

Theo, the three-person desk

**Design tool of choice:**

Text messages to share—and redline—computer screenshots

**Architecture hero:**

Our architecture hero is a staircase in the Law Courts Annex in Gothenburg, Sweden, designed by Erik Gunnar Asplund in 1936. At first glance, from across the room, the staircase appears to be a Modernist straight edge. But once you become better acquainted, you realize that the stair is really coy, playful, and a little flirtatious.

**Architects should be discussing:**

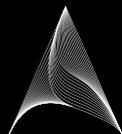
How to bolster inclusion and social justice without sacrificing exuberant aesthetics, vibrant colors, giddy laughter, and whimsical play.

> For more about *Could Be Architecture* and its work, visit [bit.ly/ARCouldBeArch](http://bit.ly/ARCouldBeArch).



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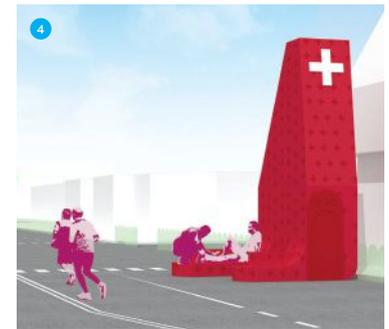
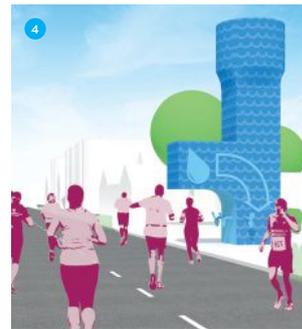
Arktura's Vapor® line of panel systems is more flexible than ever with the addition of 5 new dynamic designs - Element, Frequency, Gradients, Liana, and Sky. Frequency and Gradients are particularly innovative, allowing you to create unique layouts across spaces. All Vapor® designs are perfectly scalable and compatible with both industry standard grid systems and our Vertika® wall attachment system, making running along both walls and ceilings a breeze. Utilize its modular design to beautify spaces and shroud HVAC, lighting elements, and other infrastructure, while preserving functionality and access. Add optional acoustic backers or Arktura inline or backlighting to achieve a range of dynamic visual effects and increased utility.



A R K T U R A

**Next Progressives:  
Could Be Architecture**





1. On view through April 12 at the Elmhurst Art Museum in Elmhurst, Ill., *McCormick AfterParti* reimagines the floor plan of Ludwig Mies van der Rohe's 1952 McCormick House using hot pink curtains as walls. 2. This 2019 installation and performance at the Elmhurst Art Museum restaged German designer Oskar Schlemmer's *Triadic Ballet* nearly a century after its original debut at the Bauhaus. 3. The Book Nooks pop-up reading area at the School of the Art Institute of Chicago aggregates books from the school's faculty, offering "a snapshot of the department's current interests and an opportunity to expand the community's cultural and literary references," according to Althuler and Morrison. 4. Could Be Architecture proposed redesigning the Chicago Marathon with multiple course trajectories and alternative infrastructure. 5. The Twisted Hippo brewery and restaurant, in Chicago, features vibrant wall and floor graphics to help subdivide the space and cultivate "a character as 'weird and approachable' as Twisted Hippo," the firm explains. 6. Could Be Architecture's finalist submission for the 2019 Ragdale Ring competition comprises five pockets of activity, including sound tubes and a sheltered performance area inspired by the original 1912 Ragdale Ring arcade.

# Residential: Villa Varoise, NADAAA

TEXT BY EDWARD KEEGAN, AIA

Dubbed the “Dortoir Familial,” or family dorm, when it won a P/A Award in 2013, the now-completed Villa Varoise in southern France provides flexible accommodations for extended family gatherings that range between five and 22 people. Nader Tehrani of Boston-based NADAAA—working with Paris-based associate architect Bidard & Raissi—designed the 5,300-square-foot house on a sloped site overlooking the Mediterranean. “The house’s immersion into the earth is an idea about the landscape,” Tehrani says—as well as a strategy for privacy. The area was once agrarian, filled with vineyards and fruit trees, but there’s been a recent densification of villas, which means the neighbors are now quite near.

Splitting the rhomboid courtyard plan vertically into two Ls, each on a different level, was part of a strategy to shield spaces—both indoor and out—from the neighbor’s eyes. “The two wings are oriented to the neighbors with relatively opaque walls that protect the courtyard,” Tehrani says. This directs the views from all interior spaces toward the southeast and the Mediterranean. Visitors enter the site from a driveway to the north, where the imposing concrete mass of the house, with its cantilevered prow at the northeast corner, is to their left. “The landscape goes through the house,” Tehrani says. “You can walk up into the courtyard under the cantilevered wing and the landscape literally goes through the living room and into the upper portion of the site.”



Views from southwest (top) and north (above) show changes in transparency across the façades.

## Project Credits

**Project:** Villa Varoise, South of France  
**Client:** Withheld  
**Architect:** NADAAA, Boston · Nader Tehrani (principal); Harry Lowd, Lisa LaCharité (project managers)  
**Associate Architect/Interiors:** Bidard & Raissi, Paris · Shirin Raissi, Marie-Eve Bidard (principals); Majed Katir (project manager)  
**ME Engineer:** TPFi

**Structural Engineer:** ECI Engineers  
**Construction:** Simpson Gumpertz & Heger  
**General Contractor:** Mauro  
**Landscape Architect:** Jean Mus  
**Lighting Designer:** Inedit Lighting  
**Furniture Consultants:** Corso Europa  
**Home Automation:** Livewire  
**Garden:** Atrium & Arhami  
**Size:** 5,300 gross square feet  
**Cost:** Withheld

> For more photos of the Villa Varoise, visit [bit.ly/VillaVaroise](http://bit.ly/VillaVaroise).



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RAINSCREENS | WALLSCREENS

## Residential: NADAAA



The main entrance sits at the west corner of the house.

On the main, upper level, the primary living spaces progress in a line along the west side of the complex with the main entry, master bedroom, and an office to the north. All rooms open directly to the courtyard and its large swimming pool.

The lower level is nestled into the hillside, and has six bedrooms that open to grade along the east and south sides of the house. A family room occupies the corner of the L-shaped plan. Long hallways to the bedrooms are illuminated by ethereal daylight from windows that look into the water of the pool.

With its raw concrete walls, complex circulation paths, and bold structure, Villa Varoise can seem like a heroic composition—one that belies the modestly scaled spaces within.

The concrete is raw and uses local aggregates, which impart a subtle orange hue that matches the color of the earth in the area.

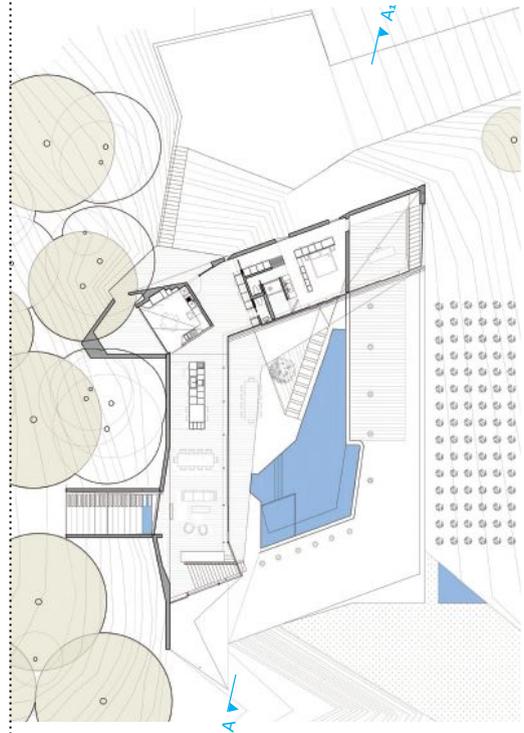
The demising walls between the lower level bedrooms are 8-inch-thick concrete, which provides superior acoustics and structural support. At the exterior, these walls taper to just 2 inches in width, providing the glazed east façade with a subtle columnar order. Most interior walls are board-formed concrete, with some more finely finished areas clad in MDF, which provides a smooth, almost satiny, surface. Nonstructural walls are teak veneer millwork, which often conceals built-in storage.

The hills close to the Mediterranean have pleasant sea breezes throughout the summertime, so “the living area is all about cross ventilation,” Tehrani says, noting that there is minimal need for air conditioning or heating. Movable teak trellises outside the bedroom windows shelter the spaces from direct sunlight and provide security for the house when it is unoccupied.

One of the few changes between the 2013 award-winning scheme and its physical realization is the roof: While conceived as a green roof, which seems more fitting to the landscape ideas about the house, in practice it is rendered in red tile, a requirement by local officials that Tehrani characterizes as “a projected notion about heritage.”

Realizing the project took more than seven years. “The political terrain was complex,” Tehrani says, and “getting it through approvals was a monumental task.” Daring in conception and clinical in execution, the Villa Varoise is a flexible retreat poised somewhere between poetry and prose.

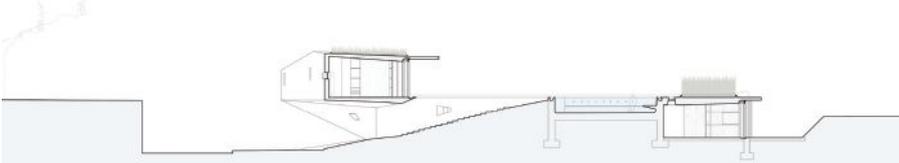
Entry-Level Plan



Lower-Level Plan



Section A-A1



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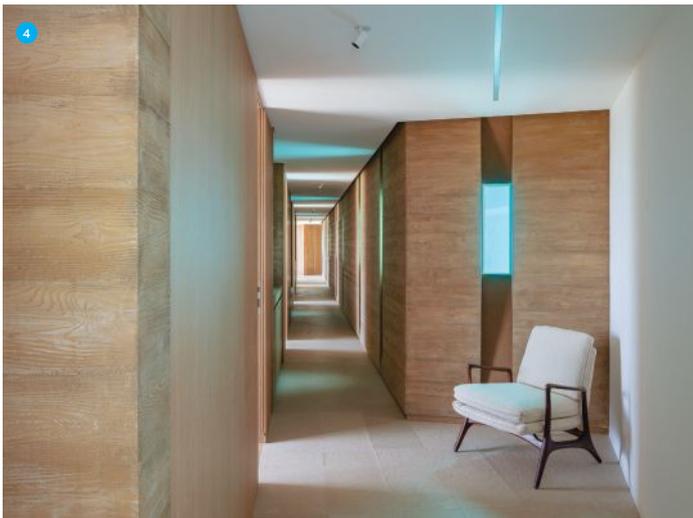
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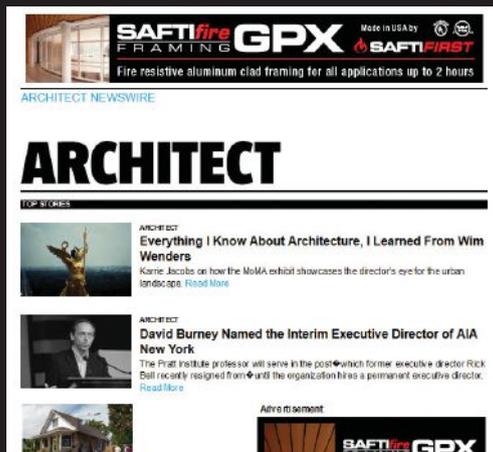
**Residential:  
NADAAA**



**1.** The Cemex concrete of the structure is mixed with local aggregate and left with its raw texture exposed across the façades. **2.** In the dining room, board-formed concrete walls are paired with local stone floors and a faceted MDF ceiling plane. **3.** Large-format windows and sliding doors from Otiima open lower-level bedrooms to the landscaped site. **4.** Windows in the lower-level hallway look directly into the swimming pool, accenting the space with turquoise light. **5.** The bedrooms are shaded by trellises outside the windows that double as security measures.

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# Responsibility is the watchword for architecture in the 21<sup>st</sup> century and beyond.

Hanley Wood congratulates and thanks the National Ready Mixed Concrete Association for its ongoing commitment to sustainable design, material innovation, and social purpose.



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# Typology: Electricity Substation, Virkkunen & Co

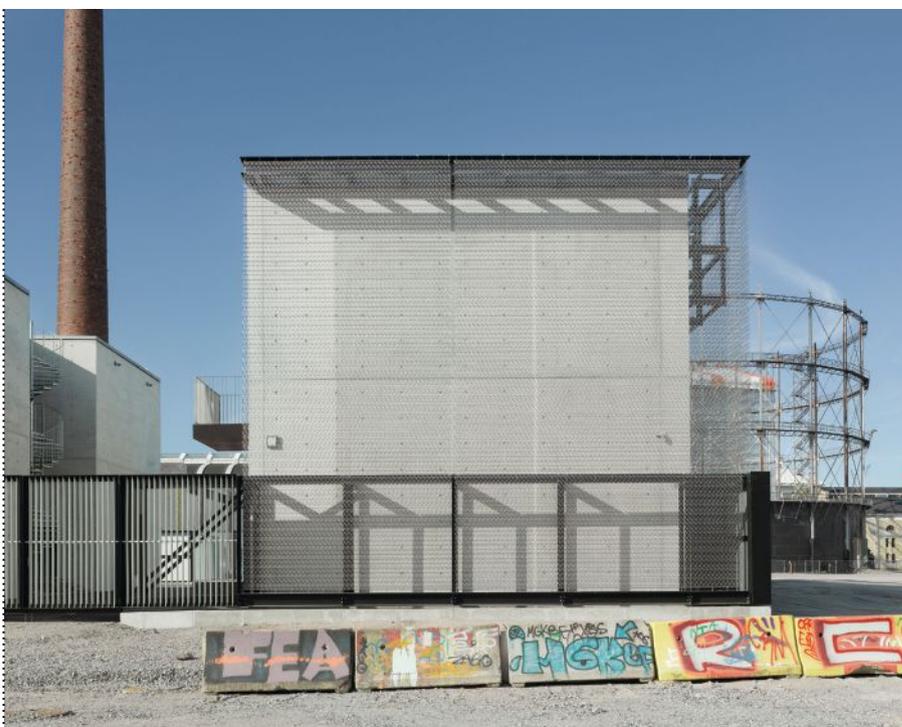
TEXT BY CLAY RISEN

Over the last 20 years, the northeast Helsinki neighborhood of Kalasatama has transformed from a raw industrial zone to a hip—if still gritty—urban cultural hub. It's also the centerpiece of the city's various "smart" initiatives, including hundreds of internet of things sensors and subsidies for high-tech startups. Currently home to just 2,000 people, Kalasatama is expected to add another 20,000, along with 8,000 jobs, over the next decade.

All that growth has put new demands on the local power grid—as has the city's plan to shift away from fossil fuels completely by 2030. And so, about 10 years ago, Helsinki decided to build a new electrical substation on Kalasatama's western edge.

Power-grid infrastructure rarely gets the architectural imagination firing. But Virkkunen & Co Architects, the local firm hired by the city power company to design the substation, has decades of experience with precisely this sort of project, as well as with bringing highly contextual, subtly expressive designs to an otherwise mundane typology. While the substation is a completely new structure, by coincidence it sits between two historic power-generation facilities: The former Suvilahti power plant, which was recently converted into a cultural center, and the Hanasaari plant, a still-functioning coal-fired cogeneration facility from the 1970s.

The Suvilahti facility, built in 1909, was the first in Finland to be made of steel-reinforced, in situ concrete—which



The new substation has site-poured concrete walls with a Codina Architectural stainless steel mesh overlay.

#### Project Credits

**Project:** Kalasatama Electricity Substation and Suvilahti Graffiti Fence, Helsinki, Finland  
**Client:** Helen Electricity Network  
**Architect:** Virkkunen & Co Architects, Helsinki · Tuomas Kivinen (lead architect); Tomi Laine, Uros Kostic, Anna Blomqvist, Maija Toivola (design team)  
**Structural Engineer:** Sweco  
**ME Engineer:** Granlund  
**Construction Manager:** Helen Electricity Network  
**General Contractor:** Oy Rakennuspartio  
**Size:** 898 square meters (9,666 square feet)  
**Cost:** Withheld

**Typology:**  
**Virkkunen & Co Architects**

was as uncommon a choice for the region then as it is today, says Tuomas Kivinen, the lead architect on the project for Virkkunen. In situ concrete can be unpredictable, especially in Helsinki's far-northern climate. But as a nod to that history, the firm decided to pour the exterior structures of all three of the substation's buildings—two for transformers and a third for switchgears—on-site, adding titanium oxide to the mix to give the concrete an off-white, weathered look.

For the façade, the firm had to reconcile two competing demands: The city government insisted that the buildings maximize their engagement with the heavy pedestrian and automobile traffic around its edges by sitting as close to the edge of the site as possible while the client insisted that, for security reasons, the buildings sit back from the perimeter.

Virkkunen's solution was to set the buildings back from the perimeter by about 4½ feet, and to drape them in a woven stainless steel mesh on a fixed armature that brings the texture of the walls flush with the fence running around the site. "The double façade meets both these requirements," Kivinen says. It also adds an unexpected beauty to the site, he says: The mesh catches the sun at different angles during the day, and casts decorative shadows on the concrete walls behind, giving it a colorful, ever-shifting effervescence.

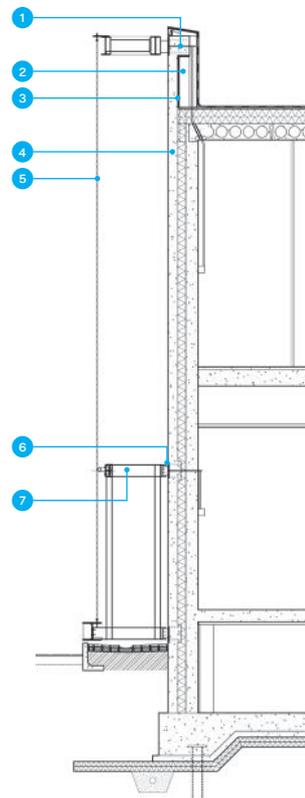
The architects also had to grapple with the site itself. Though it had long

sat fallow, in 2009, the city of Helsinki erected a temporary fence on the site to provide a spot for graffiti artists—a popular and widely respected artistic endeavor in Helsinki. To keep that spirit intact, the firm designed the 3-meter-high (nearly 10-foot-high) perimeter fence with hollow, anodized, interlocking aluminum profiles that invite graffiti artists to paint a constantly evolving façade around the substation. "It's been extremely popular," Kivinen says, noting that it softens the industrial look

of the site without taking away from the neighborhood character.

As part of Helsinki's pledge to move away from fossil fuels, the nearby Hanasaari power plant will be decommissioned by 2024, making the new substation, and its state-of-the-art energy-management technology, all the more important, Kivinen says. "Decommissioning these old plants places more demand on the network to react in a smart way, and this substation is part of that."

Wall Section Detail



Site Plan



- 1. New electricity substation
- 2. Decommissioned Suvilahti power plant
- 3. Festival plaza



- 1. Grounding through threaded rod
- 2. Studding
- 3. Plywood
- 4. In situ concrete
- 5. Stainless steel mesh
- 6. Hot-galvanized tie bar in mold
- 7. Steel bracket





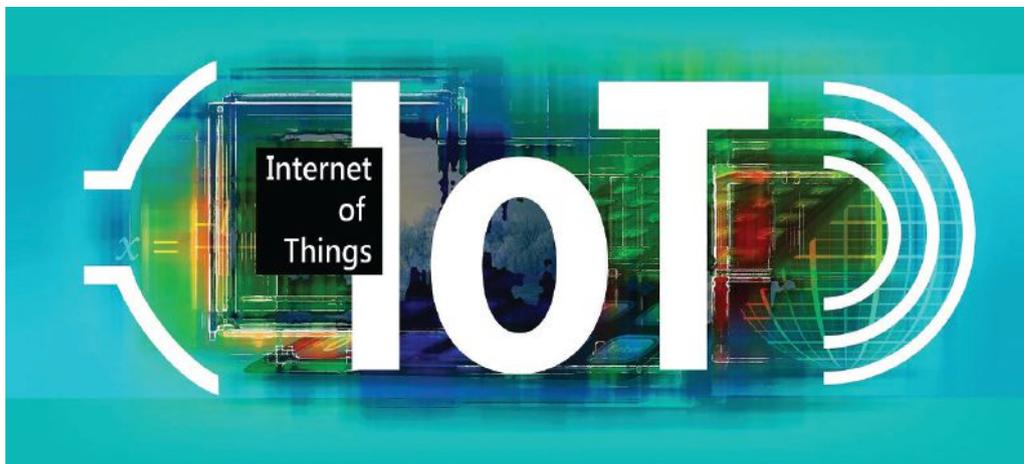
**1.** The concrete, from Rudus Oy, has titanium oxide in the mix to give it a whiter tone. **2.** A nearly 10-foot-high blank aluminum fence surrounds the substation on three sides, purposefully providing a canvas for local artists. **3.** The building interiors, which are kept largely confidential for security purposes, contain equipment that is part of a new, district-wide smart grid. **4.** The substation sits directly next to the decommissioned 1909 Suvilahti power plant, which has since been turned into a cultural center. **5.** A central court between the structures, and behind the fence, allows for secure vehicle access for service.

# THE RESTROOM OF THE FUTURE

DESIGNING CONNECTED, USER-FRIENDLY, AND SUSTAINABLE COMMERCIAL RESTROOMS

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make calls from practically anywhere, until they became smartphones that not only make calls but are connected to the internet and provide GPS, email, texting, and a plethora of apps. Just as computers and cell phones connect to the internet and continually gather and transmit data, other “things” such as connected kitchen appliances, wearable health monitors, and automated restroom fixtures are doing the same, but much of it is done autonomously without the need for human interaction. As an architect, engineer, or building manager, you are probably already familiar with Smart Building IoT, which includes HVAC, lighting, and security systems and can connect all of these to a Building Management System (BMS).

In short, the Internet of Things is a network of physical devices that collect and exchange data. IoT connects everything to the internet so that it can send information, receive information, or both.<sup>1</sup> The “thing” itself doesn’t hold a great deal of data, but it can transmit information back and forth via the internet to accomplish a task. For example, your smartphone does not have every song in the world stored in its memory, but it can connect to super storage and ask for a specific song, then receive that song that will then stream on your phone.

According to IoT Analytics, “There [were] over 17 Billion connected devices in the world as of 2018, with over 7 Billion of these ‘Internet of Things’ (IoT) devices. The Internet of Things is the collection of those various sensors, devices, and other technologies that aren’t meant to directly interact with consumers, as phones or computers do.” For example, sensors such as motion sensors or temperature sensors are connected to the internet. They can automatically collect data, which can help businesses monitor and then make more informed decisions about their products. This will transform business models, with more companies moving from only manufacturing products and providing services to companies that provide consumers with targeted outcomes because they can now

## LEARNING OBJECTIVES

1. Review the three “I’s”—Intelligence, Insights, and Interaction—that IoT facilitates and the role that IoT plays in privacy and sustainability.
2. Describe why IoT will become more prominent in commercial restrooms.
3. Understand how IoT can improve user experience and sustainability in restrooms of the future.
4. Examine how to improve wellness and sustainability through forward-thinking restroom design and innovative technology.

## THE INTERNET OF THINGS IS TRANSFORMING THE WORLD

The A&D industry, plumbing manufacturers, and municipalities are conducting a great deal of research and development into technological advancements, sustainable features, design trends, and social implications of today’s commercial restrooms. The Internet of Things (IoT) is making sweeping changes for restrooms of the future, and sustainability initiatives are pushing energy efficiency and water conservation to the forefront of restroom design. This course will discuss these issues and more, including forward-thinking restroom designs and innovative technologies that will help you design connected, user-friendly, and sustainable commercial restrooms.

You may have heard the term “Internet of Things” discussed recently, but what does it mean? Most of us use the internet every day and are familiar with how it works and how ubiquitous it has become in our daily lives. We are also surrounded by many “things” that are increasingly technologically advanced. A phone used to just make calls from a land line until cell phones were developed that could

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GBCI: 1 CE  
IDCEC: 0.1 CEU/HSW  
ASPE CREDIT: 0.10 CEU

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IoT and the ongoing digital transformation of manufacturing are now considered the Fourth Industrial Revolution. They are evolving at an exponential pace and disrupting almost every industry worldwide.

collect and convert data into usable and valuable information.<sup>2</sup> In fact, a new report from Business Insider Intelligence has forecasted that in the period between 2017 and 2025, global IoT spending could reach \$15 Trillion.<sup>3</sup>

### IOT—THE FOURTH INDUSTRIAL REVOLUTION

IoT and the ongoing digital transformation of manufacturing are now considered the Fourth Industrial Revolution, which is “rapidly driving transformational disruption across every sector,” according to The World Economic Forum. “By 2022, over 60 percent of global GDP will be digitized, and an estimated 70 percent of new value created in the economy over the next decade will be based on digitally-enabled platforms.” Although the Fourth Industrial Revolution is related to the Third, which

used electronics and information technology to automate production, it is evolving at an exponential pace and disrupting almost every industry worldwide.<sup>4</sup> According to McKinsey Global Institute, IoT will be the third most impactful technology in 2025, after the mobile internet and automation of knowledge work, with an economic impact around \$11.1 trillion or 14 percent of today’s global GDP.<sup>5</sup>

### THE IMPORTANCE OF PRIVACY AND IOT

The internet and its erosion of privacy have recently become a widespread concern, and it will only increase with the proliferation of IoT. Consumers can no longer control or monitor the information that is collected about them, and indeed, they often don’t know it is happening or how the data is subsequently used. Among the key findings of a study by the UC Berkeley Center for Long-Term Cybersecurity, “Regulators and product makers need to do more to protect consumer data in the Internet of Things (IoT), as the rapid proliferation of web-connected devices is leading to the potentially irreversible erosion of our personal privacy.” This is not only important in consumers’ home environments where they may utilize IoT via Amazon’s Alexa™ or whole-house automation, but also in commercial buildings such as offices and healthcare facilities. UC Berkeley warns, “IoT has the potential to diminish the sanctity of spaces that have long been considered private, and could have a ‘chilling effect’ as people

grow aware of the risk of surveillance.” This could be particularly concerning in public/private spaces such as commercial restrooms or healthcare facilities where sensors are used to monitor traffic, water use, and supplies.

UC Berkeley maintains that “Makers of IoT products and services should employ a variety of standard measures to provide greater user management and control, as well as more effective notification about how personal data is captured, stored, analyzed, and shared.”

### EFFECT OF IOT ON SUSTAINABILITY

The World Economic Forum (WEF) also has a Digital Economy and Society System Initiative, which aims to “ensure our digital future is inclusive, trustworthy, and sustainable, with IoT being a key focus.” In their article, *The Effect of the Internet of Things on Sustainability*, they note that past technological advancements have contributed to the degradation of our climate, including carbon emissions and water pollution. But, in the past four decades, technology has been invented specifically to better the world, such as entire industries developed around clean energy like solar and wind.

The WEF believes that most current IoT projects can contribute to achieving both the United Nations’ (UN) 2030 Sustainable Development Agenda and the UN’s 17 Sustainable Development Goals, which are shown in the graphic below. These goals, recently adopted by the UN, balance the

## GLOSSARY

### Internet of Things

A network of physical devices that collect and exchange data via the internet so that it can send information, receive information, or both.

### UN’s 17 Sustainable Development Goals

Goals that balance the three dimensions of sustainable development: economic, social, and environmental and act as a blueprint to achieve a better and more sustainable future for all. They address global challenges, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice.

### Occupancy Sensors

A new technology that improves guest experience by indicating whether a stall is in use or vacant, reducing wait time and guiding patrons to the next available restroom stall.

### Ultrasonic Water Detection Technology

An advanced ultrasonic technology that can catch and control water issues 24/7 with real-time water monitoring, smart leak detection, and automatic shut off.

### Electronic Sensing Technologies

Electronic plumbing fittings that offer sanitary, touch-free operation, while conserving water and energy in that they only dispense water when the sensor detects a user and can also limit water delivery duration.

### PVD Finish

Physical Vapor Deposition ensures a longer-lasting finish because the PVD process bonds the finish at the molecular level and enhances resistance to the chemicals and abrasion that commercial restroom fixtures face from daily cleaning.

### Electronic Soap Dispenser

Sensor-activated soap dispensers automatically dispense a pre-measured amount of liquid soap or foam soap to reduce waste while delivering the convenience of touch-free operation.

### Deck-Mounted Hand Dryer

A hand dryer coupled with a fabricated sink that has an air dam designed to “capture” the high volume of air, preventing water or soap in the sink from exiting.

### HEPA Air Filter

A hand dryer filtration system that removes 99.97% of potentially present bacteria at 0.3 microns from the air.

### Global Real Estate Sustainability Benchmark (GRESB) reporting

Often mandatory reporting that enhances the value of a commercial building by providing utility readings and tenant billing for a facility.

### Automatic Doors

Restroom stall doors that save space, are accessible, and increase privacy because there is no “gap” between stall partitions.

### Disinfecting Hand Dryers

A new generation of hand dryers that purifies blown air inside a “drying tunnel”—purification is accomplished through photocatalysis, which pre-purifies the jet air and then distributes purified air and cleans the hand drying water.

## SUSTAINABLE DEVELOPMENT GOALS



The World Economic Forum believes that most current IoT projects can contribute to achieving both the United Nations' 2030 Sustainable Development Agenda and their 17 Sustainable Development Goals.

three dimensions of sustainable development: economic, social, and environmental. They are, "A blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice."<sup>6</sup> In their 2030 Agenda for Sustainable Development, the UN creates a plan of action for people, the planet, and prosperity to strengthen universal peace and freedom.

The World Economic Forum believes that to capitalize on all of this potential, "IoT projects which main priority is to address sustainable development challenges are crucial, but an even greater impact could be achieved by prioritizing sustainability goals within commercially driven projects." IoT can be used to measure and remotely control previously unconnected things to reach people that could not be reached with older technology. Such projects can then be scaled up for broader deployment across the commercial sector. For example, there are remote, water-monitoring IoT technologies in indigenous populations to ensure they are receiving clean water (which meets the Clean Water and Sanitation SDG). Such a project is relatively small scale, as it's only been deployed in several small villages worldwide, but once these types of projects move out of a company's "innovation" funds into better funded "profit and loss" funds, there is the capacity to deploy such projects more widely.<sup>7</sup>

### WHY USE IOT IN COMMERCIAL RESTROOMS?

Architects, engineers, designers, and building product manufacturers can play a huge role in creating a technologically advanced world. The buildings where we live, work, shop, and play are vital to our quality of life. We want our surroundings to be clean, beautiful, modern, and healthy. Restrooms usually comprise a small percentage of a commercial building's budget despite the fact that they can have a significant impact on how users perceive the entire property. But, owners are beginning to invest their money in automated commercial restrooms.<sup>8</sup> According to the Building Owners and Managers Association (BOMA), they are one of the top three sources of tenant complaints and, "Recent surveys have found that 73 percent of tenants say a bad restroom reflects poor management, and 60 percent say an unhygienic restroom lowers their opinion of a building." Potential areas of concern are unpleasant odors, littered and dirty spaces, too much waste of paper products and water, and low supplies of toilet paper, paper towels, and soap.

Another study by Clean Link titled *Restroom Cleanliness Impacts Facility Perception* states, "86 percent of U.S. adults equate the cleanliness of a restaurant's restroom with the cleanliness of its kitchen. The survey also revealed that 75 percent of U.S. adults would not return to a restaurant with dirty restrooms.

### DELIVER VALUE TO CUSTOMERS VIA IOT AND SMART RESTROOM SOLUTIONS

The Internet of Things and smart restroom solutions are about delivering value to the customer. What capabilities do your clients want to see in a connected restroom? The value falls into four broad areas: reduce costs, increase revenue, reduce risk, and support regulatory compliance. When specifying restroom products, choose a manufacturer that provides smart restroom solutions with unique and measurable value in each of these areas.

#### Reduce Costs

IoT can significantly reduce labor, water, and sewer costs in restrooms by optimizing cleaning and maintenance schedules, dispatching labor based on need alerts, minimizing the frequency of plumbing issues and subsequent repair time, as well as conserving water. This is accomplished by monitoring key restroom data such as usage comparisons, anomalies, and traffic patterns.

#### Increase Revenue

Cleaner restrooms equate to increased business for commercial clients because patrons will spend more time in a store or business and will likely become repeat customers. Owners that maintain spotless, technologically advanced restrooms can also lease space at a higher premium.

#### Reduce Risk

Incorporating IoT into commercial restrooms reduces risk to the property and occupant health by minimizing stagnant water, monitoring water temperature, and preventing overflow and floods with water flow monitoring and control. It also raises awareness to the percentage of people that wash their hands with soap, minimizing the spread of germs.

#### Support Regulatory Compliance

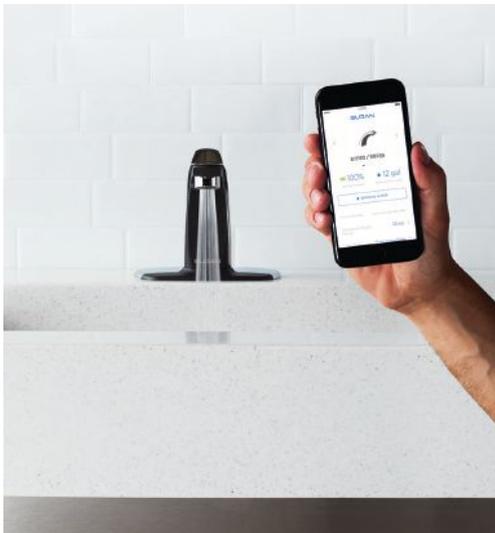
To support regulatory compliance, IoT assists with Department of Health sanitary compliance reports that help clients stay in front of regulatory compliance issues and then validate steps taken to minimize risk if issues do arise.

Regardless of industry, clean restrooms directly impact a business' ability to attract and retain customers." With the proliferation of social media, they are likely to provide negative online reviews, which can further hurt business.

Property and facility managers can identify and resolve issues before they occur when they receive real-time data about restroom demand via IoT. A data-driven restroom management system can include a network of physical devices that collect and exchange data, including flush monitors, sensors embedded into paper and soap dispensers, sensor faucets, and traffic counters.

BOMA says, "The detailed information provided by a data-driven restroom management system

provides a number of benefits, including the ability to adjust cleaning and maintenance schedules, redirect resources to where they are needed most, and ensure responsiveness to tenant needs." Janitorial staff and building managers receive an alert when supplies are low, batteries need changing, or overall traffic hits a certain threshold that necessitates cleaning. Ultimately, strategic scheduling via an IoT-based system can help reduce costs and waste through budgeting and inventory planning, as well as achieve sustainability goals.



IoT can be used to remotely monitor restroom systems such as faucets, flushometers, soap dispensers, hand dryers, and restroom traffic. For example, faucet sensors in the restroom allow for programmed water technologies such as controlled water usage, automatic data collection, reports, and alerts.

### THE CONNECTED RESTROOM—HOW TO HARNESS IOT IN COMMERCIAL RESTROOMS

We now understand that IoT is the connection of many types of consumer, commercial, and industrial equipment using embedded electronics, microchips, etc. to collect and exchange data. It provides better service, remote operation, and compliance because the user can control devices remotely over a network. This Insight, Interaction, and Intelligence of "things" helps to Instruct, Inform, and Inspire. Let's delve a little deeper into how you can harness IoT when designing commercial restrooms to improve user experience, wellness, and sustainability.



This article continues on <http://go.hw.net/AR032020-1>. Go online to read the rest of the CEU course, complete the corresponding quiz for credit, and receive your certificate of completion.

## QUIZ

- According to IoT Analytics, "There [were] over \_\_\_\_ Billion connected devices in the world as of 2018, with over \_\_\_\_ Billion of these 'Internet of Things' (IoT) devices."
  - 13, 3
  - 15, 5
  - 17, 7
  - 19, 9
- IoT is considered the \_\_\_\_ Industrial Revolution.
  - 1st
  - 2nd
  - 3rd
  - 4th
- Recent surveys from the Building Owners and Management Association have found that \_\_\_\_ percent of tenants say a bad restroom reflects poor management, and 60 percent say an unhygienic restroom lowers their opinion of a building.
  - 52
  - 65
  - 73
  - 84
- Data-driven restroom management systems provide which benefit?
  - Ability to adjust cleaning and maintenance schedules
  - Ability to redirect resources to where they are needed most
  - Ensure responsiveness to tenant needs
  - All of the above
- Sensor technology in commercial restrooms provides which of the following?
  - ADA accessibility
  - Overall hygiene
  - Restroom cleanliness
  - All of the above
- A HEPA air filter is a hand dryer filtration that removes \_\_\_\_% of potentially present bacteria at 0.3 microns from the air.
  - 99.97
  - 80.98
  - 73.99
  - 91.99
- \_\_\_\_ are a new technology that improves guest experience by indicating whether a stall is in use or vacant, reducing wait time and guiding patrons to the next available restroom stall.
  - Occupancy sensors
  - Ultrasonic water detection technologies
  - High efficiency toilets and urinals
  - High speed hand dryers
- How can sensor technology help to conserve water?
  - Flushometer run-on detection
  - Double flush detection
  - Water usage tracking
  - All of the above
- A high-speed, no-heat wall dryer dries hands in \_\_\_\_ seconds while only using 500 watts of energy, making it the most energy-efficient and environmentally-friendly wall-mounted hand dryer available.
  - 5
  - 10
  - 15
  - 20
- Which commercial restroom technology is particularly helpful in gender-neutral restrooms?
  - Automatic doors
  - Voice-command technology
  - Hand dryers that disinfect and perfume
  - High efficiency urinals

## SPONSOR INFORMATION



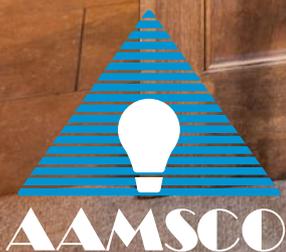
Sloan is the world's leading manufacturer of commercial plumbing systems. Sloan has been at the forefront of the green building movement since 1906 and provides sustainable restroom solutions by manufacturing water-efficient products such as flushometers, electronic faucets, and soap dispensing systems, sink systems and vitreous china fixtures for commercial, industrial and institutional markets worldwide.

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# AIA Architect

## AIA Voices



CREDIT: SAMI DIEPHUIS

### A New Kind of Profession

**Architecture needs to focus on social responsibility, not just design excellence.**

Gabrielle Bullock, FAIA, has devoted her career to reshaping both the built environment and the architectural profession. Since 2013, she's been the director of global diversity at Perkins and Will, tackling long-standing problems of inequity and helping the firm strive for equilibrium in gender and racial diversity. For her accomplishments, she recently received AIA's 2020 Whitney M. Young Jr. Award. Her design work, which includes the first coed university in Saudi Arabia, is just as dedicated to social responsibility. "Since the beginning, I've been committed to this kind of work," she says. "I'm not interested in designing a shiny new skyscraper."

As told to Steve Cimino

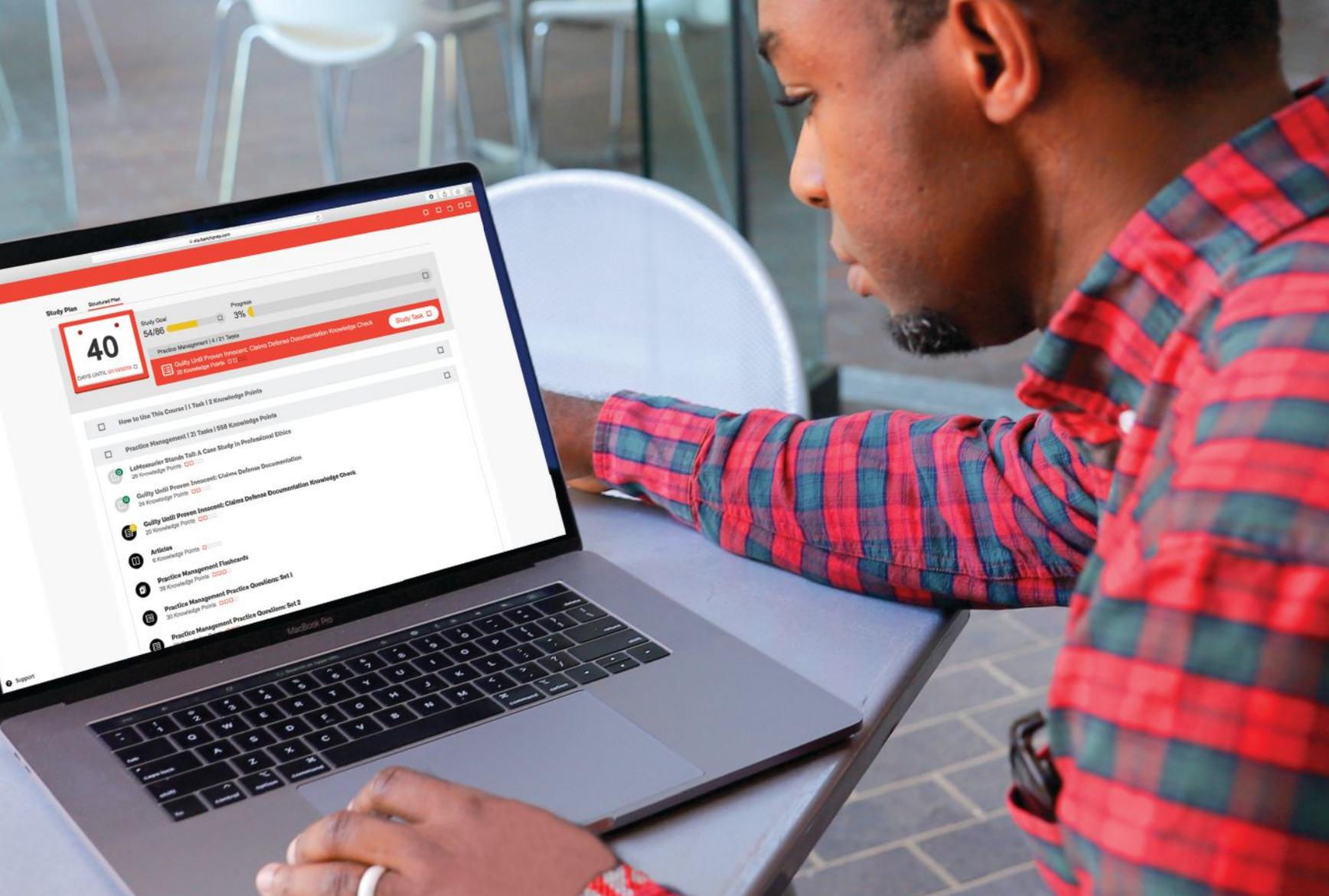
When I was 12, I remember my teacher asking what I wanted to do when I grew up. I said, "I want to be an architect." I didn't really know any architects or anything about architecture; I probably just thought of it all as "spaces." But I could already see the positive impacts of good architecture and the negative impacts of bad architecture. I knew how I felt around poorly designed public housing versus well-designed homes. I could tell the difference, and it affected me greatly.

At a certain point in my career, I reached a tipping point in regard to equity, diversity, and inclusion. Like many firms, Perkins and Will dabbled in [EDI] over the years, but it was always either forming a committee or just talking. It was really the work we did in Saudi Arabia that opened my eyes. I saw a deficit in cultural competency, both at our firm and across the profession. That was the main catalyst. I knew we couldn't stand still any longer. In 2013, I was ready to take another step at the firm, and I wanted to be doing work that would contribute to making the profession more inclusive.

It's such a vast problem to solve: you've got culture, demographics, the pipeline. Everything from race to gender to LGBTQ+ [issues]. The biggest success on our end is that we're focused on measuring our progress. You can't change what you don't measure. It's become a core value of the firm, and I think it's becoming a core value of the profession.

Thankfully, around the same time I became director of global diversity, the profession started to actually change for the better. It wasn't like that over my first few decades. It started to feel like a critical need; we'd face irrelevancy if we didn't adapt. And our clients and the work we do are also changing. There are more projects in cities and within urban communities, and our clients are more diverse than ever before. That's been key in our attempts to mirror society and the people we serve.

I chose to do this work, and at the same time, the need for this work has blossomed and expanded. Perkins and Will has set out to do socially relevant work, and there's no shortage of that at this point. **AIA**



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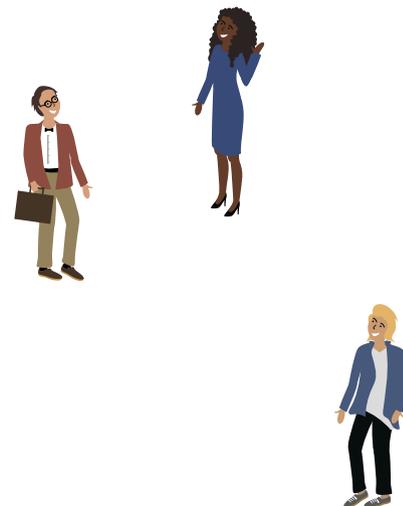
CREDIT: JILLIAN PAUL

## Solo Architects That Operate as Sole Proprietors Saw a 21% Increase in Income From 2017 to 2019

By Michele Russo

These architects saw their net profits increase by 20% or more over that same two-year period. This is akin to the growth that executive-level staff saw at larger firms. Across the board, most staff at small firms saw salary increases over the last two years, though at lower levels. These include a 20% growth for principals at firms organized as sole proprietorships, 12% for designers, 10% for principals at small firms that were not sole proprietors, and 7% for emerging architecture professionals.

For more information on compensation and benefits at small firms, see AIA's 2020 Small Firm Compensation Report. Visit [aia.org/smallfirmreport](http://aia.org/smallfirmreport) for more information.



# AIA Feature



CREDIT: STUDIO GANG AND SCAPE

A Studio Gang-led redesign of the Arkansas Art Center, which has been a cultural staple in the Little Rock community since the 1930s, will make the structure newly relevant.

# Making Space for Innovation

**Two rehabilitation projects by women-led firms are pushing the boundaries of what's possible for legacy spaces.**

By Amanda Koellner

The option of spending a Saturday morning in a glass-blowing class at the local art center or a 97-degree afternoon in a cool public pool make living in a particular community worthwhile. But with years of bustling activity—or, say, an inherently flawed original design or a structure plagued by a disjointed collection of additions—comes the inevitable need for an architectural revamp.

Two new design projects, each with women-led firms at the helm, prove that when it's time for an update, legacy institutions can better serve their communities when architects bring innovative designs to the table and use the surrounding landscape as a prime source of inspiration.

In Manhattan, Central Park's Lasker Rink and Pool, which has provided the Harlem community with free swimming, low-cost skating, and public programming since 1966, has long been in desperate need of some love. In 2015 the city approached the Central Park Conservancy—the private nonprofit founded in 1980 to revitalize the park—with a proposal to partner on a major project to address the failing facility.

Persistent flooding has been a problem since the facility opened, so much so that if it leaked at the rate it's capable of, 50 gallons per hour, without being patched, it would be empty in less than 24 hours. Plus, the refrigerant used to make ice in the winter, a type of Freon called R22, was recently banned, so when Lasker's supply runs out, the entire

mechanical system will be finished.

Given that the current structure is failing and beyond repair, an opportunity arose to deliver a brand new state-of-the-art facility that will support year-round programming for a variety of park users. The new design will keep the pool's Olympic size and add a regulation-size hockey rink.

"Floating in the middle of the existing pool is quite magical," says Susan T. Rodriguez, FAIA, whose eponymous architecture firm is handling the redesign in collaboration with the Central Park Conservancy and New York-based Mitchell Giurgola Architects. "But the whole experience of getting in and everything else is not."

Lasker currently blocks the scenic, recently renovated Ravine in the park's North Woods—so much so that Harlem residents and park-goers largely don't know it exists—and breaks up a watercourse that would otherwise flow freely down from the northeastern corner's Harlem Meer, a body of water in Central Park's northeastern corner.

"I had to intuitively understand, 'Where

can we find space to integrate this into the topography?' because that was the way to return this to the natural setting," Rodriguez says of the project, which is set to break ground in 2021 and be completed by the summer of 2024. "There's a huge responsibility in this transformation to get it right."

To start, she leaned on the park's chief landscape architect, Chris Nolan, and Central Park Conservancy vice president for planning, design and construction Lane Addonizio for a historical deep dive. "This project really is the culmination of the conservancy's work of restoring the park since 1980 for its main purpose: for it to be a reprieve from the city for all New Yorkers," Addonizio says, citing original designers Frederick Law Olmsted and Calvert Vaux, who intended for the park to both "provide the best practicable means of healthful recreation" and offer "an aspect of spaciousness and tranquility to afford the most agreeable contrast to the confinement, bustle, and monotonous street-division of the city."

Next, extensive community research involved conversations with birders, skaters

# AIA Feature

CONTINUED

and swimmers (of course), the “hockey player who skates in the winter and brings his 18-month-old to the park for picnics in the summer,” and everyone in between to understand what they would want out of a new facility. With history top of mind and annual visitors totaling 200,000 for the pool and rink, 2.5 million for the Harlem Meer, and 2 million for the North Woods, the team knew the redesign would need to benefit not just those that use the pool and rink, but the public in general.

The result? Rodriguez has pivoted the building and pool to the east and carved space for the whole facility into the existing steep topography. This opens up the watercourse and provides room for a swimming pool of a different shape—a sleek oval favorable over the toilet-bowl-esque design currently in place—that’s almost the same size as the existing one. This opens the Harlem community up to both the facility and the currently invisible scenic view of the northwestern edge of the park. “The original pool is just a mega-building that could be anywhere,” Rodriguez says. “The new design isn’t just about a building, it’s about space, and making space. Everything will be much more fluid and accessible.”

The facility will feature 32 5-foot-by-14-foot glass doors that pivot and open to create a ventilated porch in the summer or close for a cozy warming hut in the winter (plus, the new facility will be open year-round, while currently it’s closed for about half of the year). Fieldstone retaining walls undulate and transition from outside to inside, so even when visitors are indoors, they’ll feel embraced by natural materials. The historic Huddlestone Arch (circa 1866) will now be visible, and the newly opened watercourse will extend the overall experience to the north. A new pergola and boardwalk near the pool provide additional opportunities for skating in the winter and will reintroduce a freshwater marsh to the park while also helping with the drainage issue. (“The birders are very excited,” the team says of the forthcoming flora and fauna.)

Additional sustainable components include bird-safe glass on the building, maximized solar conditions, natural ventilation, stormwater management, systems for the pool and rink that are as energy efficient as possible, and a highly technical green roof atop the facility. The hope is that the roof will blend into the existing topography so seamlessly, visitors will have a hard time knowing when the existing landscape starts and the roof ends—or that they’re standing on top of a building at all.

“I’ve lived in New York for a long time. My grandfather used to bring me to the park, and I remember coming here and skating,” Rodriguez says. “This is the project of a lifetime for me. I love working in the public realm, and to see that it can effect such an important change and improve the quality of life for everybody. ... I think [the park is] going to be of such greater value to the city and the community.”

## Innovation Further South

New York City and Little Rock, Ark., don’t have too much in common, but a project more than 1,200 miles away from Central Park that broke ground last October carries striking similarities to Lasker Pool and Rink.

The Arkansas Art Center has been a cultural staple in the local community since the 1930s. “We always say that the AAC has been a victim of its own success,” says Juliane Wolf, AIA, design principal and partner at Studio Gang (led by Jeanne Gang, FAIA), who is leading the center’s redesign. “It has something a lot of cultural institutions are struggling to gain, which is a really robust programming that engages a multitude of communities, but the existing facility doesn’t have a unified identity—or, it certainly doesn’t have an identity that suggests the exciting things happening on the inside.”

That lack of identity is the result of eight additions piled on over the decades—all with distinct architectural styles—which do the center a disservice by presenting a jumbled appearance to unknowing passersby. It also leads to an experience inside that leaves something to be desired.

The AAC is home to a museum, museum school, and children’s theater, but if a parent came to a performance in the children’s theater, they’d easily miss the fact that the center houses close to 14,000 works of art and offers classes for people of all ages.

Reconnecting the currently incoherent sections of the center is the crown jewel of the project: a thin folded-plate concrete structure, dubbed the “blossom.” It runs atop the center from the north to the south and reaches into MacArthur Park, offering a new axis of connectivity.

“The blossom provides a more intuitive visit, where people know where they’re going; or if they come in for the first time, the space will be very welcoming,” says Victoria Ramirez, executive director of the Arkansas Art Center.

Beyond affording a more holistic design,

Studio Gang is adding a glass-enclosed space dubbed the “cultural living room” where people can read and enjoy a cup of coffee, socialize, or host events—further solidifying the AAC’s position as a hub for the community. Beneath it will be the north-facing entrance: the original 1937 building, which Wolf says is both a nod to the center’s history and “the heart and soul of the structure.”

More technical problems will also be solved with the revamp: art-handling will move to the northwest corner, so pieces won’t have to travel across the entire AAC to the museum. Studio Gang also notes that the center has one of the best works-on-paper collections in the country, but many pieces can’t be displayed due to spacing, lighting, or HVAC conditions—all of which will be remedied by the new redesign.

As outdated systems are updated, sustainability continues to come to the forefront of the project. Native planting, stormwater management via pleats that will feed new gardens and perennial meadows, daylighting, and reusing elements of the existing building wherever possible all contribute to the new LEED Silver rating.

As Studio Gang designed an outdoor dining pavilion to replace the existing parking lot, SCAPE Landscape Architecture added more than 2,200 linear feet of new paths and trails and 250 new trees to the surrounding parkland, Studio Gang and SCAPE studied Little Rock’s surrounding agricultural landscapes in order to create a “museum in a forest” where the arts center and the park can blend into one.

All told, Wolf hopes the design will not only service the large existing AAC fan base, but usher in a new wave of visitors. “It’s very much beloved with the groups that know of it and are a part of it, but there’s a huge population in Little Rock and beyond that’s not aware of what’s happening inside, or might not feel very welcome because of the structure,” she says. “The hope is that when there’s a school group that’s coming to see a play in the theater, that they’ll see into the art school and maybe want to take a class; or see the sculptures, and decide to walk through the galleries for a cross-fertilization between the programs that should have a very big impact on the visitors.”

Ramirez echoes the sentiment. “The design is so smart in that our biggest disadvantage in the old building will become the biggest advantage of the new building,” she says. “In so many ways, this building is the future of where art museums are going—needing to be spaces for people as much as art.” **AIA**

# A'20

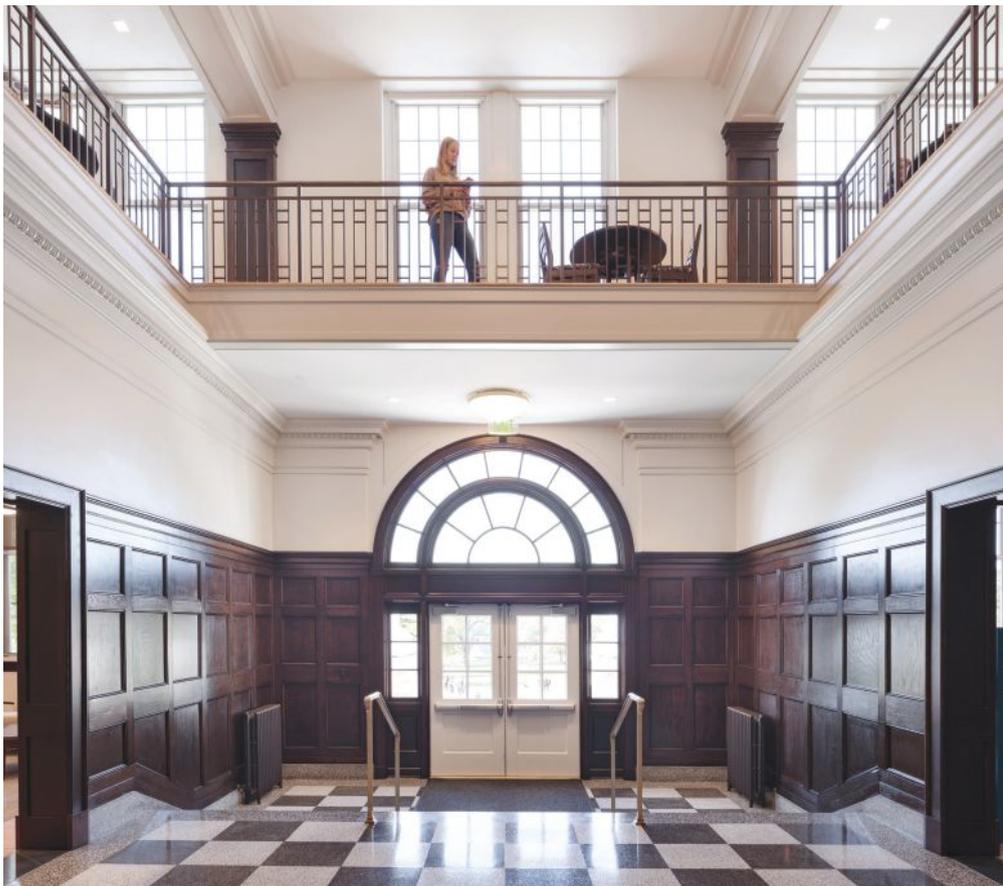
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# AIAFuture



A restoration of Wilson Hall, a 1931 structure at Virginia's James Madison University, brought it up to current performance standards.

## Rehabbing the Future

**Architects are preparing for a wave of restoration and rehabilitation work, spurred by aging building stock and an increased focus on sustainability.**

By Katherine Flynn

Every year a new crop of buildings becomes eligible for historic preservation, as determined by criteria set forth by the U.S. Department of the Interior: to qualify, structures must be 50 years of age or older. As more and more midcentury buildings qualify, and as an increased focus on sustainability forces architects and clients alike to consider the benefits of new construction versus rehabilitation of existing building stock, the number of buildings requiring renovation is expected to rise exponentially over the next few decades. According to a 2016 study from the National Trust for Historic Preservation, it can take between 10 to 80 years for a new energy-efficient building to overcome, through efficient operations, the climate change impacts created by its construction.

In response to this expected increase in demand, Richmond, Va.-based firm Glavé & Holmes Architecture recently founded a specialized studio poised to address it. Susan Reed, AIA, is the firm's newly minted director of historic preservation, and she is optimistic about the potential that buildings from the past hold.

"Having the preserved historic character in our built environment is essential for quality of experience," she says. "It seemed like a great time to formalize a dedication to preservation projects. [Preservation] is not more complicated, but you do need people who understand working with existing buildings and historic building materials."

**Why is historic preservation important to the architects at Glavé & Holmes?**

The firm was founded in 1965. [Founder] Jim Glavé was a huge preservation advocate, so it's been in the firm's DNA throughout its entire existence. I came on board about three years ago, and historic projects have been my focus for 20 years. It's anticipated that the AEC industry will trend toward renovation versus building new [in the coming decades], especially in higher education. Rehabilitating existing structures is also more sustainable. Working with what you have creates less of

a carbon footprint, in addition to preserving historic character.

**Will these historic restoration and renovation projects raise the profile of historic preservation's role in sustainability?**

Yes, it's tied into that. Aside from the fact that there is the expense of a new building, it's not as sustainable an approach. Sometimes I think taking an existing building and modifying it can be intimidating for people, but it shouldn't be, especially when there's a team of qualified architects and designers that can help you. It's certainly possible.

**What are some recent projects that you've worked on?**

Wilson Hall, at James Madison University, used to be used for classrooms, and was lately more

administrative. One of the things we were able to do was put a compatible program back into that building. In that case, it was too prominent of a building and it never would have been considered for demolition, but I think the realization was that you can retain all of the historic character and modernize the building so that it can serve the academic use that it needs to again. The restoration really brought it up to current performance standards and put it back in a vibrant service to the university while retaining historic character. So that's the kind of thing where it might be intimidating in some scenarios, but it's certainly possible.

**What's your personal background with historic preservation?**

I was 15 when I went on an exchange to Italy, and Florence will have that affect on you. [laughs] Really, that's kind of when I fell in love with art history and architectural history.

My undergraduate degree at the University of Virginia was in art history and architectural history. I considered doing painting conservation but ended up deciding to get a master's in architecture with a certificate in historic preservation, and I decided I wanted to restore buildings instead of paintings.

**What role do historic tax credits play in being able to complete historic preservation projects?**

We're very fortunate that Virginia has a very strong historic rehabilitation tax credit program, and that, partnered with the federal credits, has been really instrumental in saving a lot of historic buildings. I've worked on a lot of projects where clients have said, from the start, that tax credits are essential to making the projects work: 25% for the Virginia credits, paired with 20% for the federal, that's 45% of your qualified rehabilitation expenses

The restoration of the North Court at the University of Richmond included repurposed spaces for the music department.



# AIA Future

(CONTINUED)

that can go back toward the project. I'm a huge supporter of the tax credit program. The program lets you modernize and update buildings while still respecting the character-defining features. The hoops and hurdles aren't so much that they should scare people off.

**Do clients usually look to the firm to help them navigate that process?**

Absolutely. Clients can be as involved or step as far back as they would like from that process, and we handle it all. It's something we're very happy to help with.

**Are there any upcoming projects you're particularly excited about?**

One that's coming up is the Branch Museum of Architecture & Design here in Richmond. It's a 1916 John Russell Pope building that's absolutely stunning. We're working with them now, kicking off a series of projects to help stabilize the building envelope.

Also right now the Virginia Commonwealth University Scott House is under construction, due to wrap up in June. It was a 1911 private residence for the Scott family, but VCU now owns it. The interiors are incredible, but the limestone exterior needed a lot of repairs. The historic detailing is being restored and very carefully respected.

**How does your studio partner with other firms around the country?**

We're actually doing a historic consulting project in Florida. We're thrilled to partner with architects that may need the historic expertise we can offer, whether that's as a partner, a consultant, or an architect of record.

**Is there one specific time period you tend to work with more than any other?**

It's quite an exciting range, and we like that. For example, the Waterford Mill, [a recent project], is from 1818, but James Madison University's Wilson Hall is 1931. As midcentury buildings become historic, we're excited about the opportunity that their eligibility for the tax credit program opens up. We have worked across the sector of the eras.

We feel that our new studio is a wonderful confirmation of the importance of historic preservation in the field of architect, and I'm honored that I'm getting to head it up. The preservation community is supportive—everyone helps each other. **AIA**

# AIA Perspective



CREDIT: J. CARRIER

## Leading From Behind No More

The inspiring women-led initiatives featured in these pages this month certainly fulfill Louise Blanchard Bethune's words: "The future of woman in the architectural profession is what she herself sees fit to make it."

Whether it's innovative design, promoting inclusion, civic engagement, or countless other priorities, women are making an impact and leading on all fronts in the architectural profession.

Sustainability is no exception. As AIA steps up its efforts to deploy climate solutions, we're building on a solid foundation of knowledge and action; and women have shown leadership every step of the way.

Susan Maxman, FAIA, wasn't just AIA's first female president. She was also one of the first to pioneer green design and to champion sustainability as an AIA priority. AIA's conference during her tenure in 1993, titled "Architecture at a Crossroads," drew green architects from across the globe to discuss sustainability. It's remembered as the first green convention, and the momentum she spurred three decades ago still energizes our climate efforts today.

Last year's conference represents another sustainability crossroads, and, once again, a woman provided pivotal leadership. By spearheading a landmark climate resolution,

Betsy del Monte, FAIA, initiated AIA's next era of climate action.

With our membership's overwhelming vote in favor of climate leadership, we're poised to elevate our sustainability and resilience efforts to new levels and make a meaningful impact.

Leading the way are members like 2019 Committee on the Environment (COTE) chair Marsha Maytum, FAIA, whose firm, Leddy Maytum Stacy, is one of only three to have ever received eight AIA COTE Top Ten awards. Other COTE leaders like Angela Brooks, FAIA, whose advocacy encourages peers to participate in AIA's 2030 Commitment, and Julie Hiromoto, AIA, who launched CASE (Center for Architecture Science and Ecology) are also leading by example.

Kate Simonen, AIA's seminal research on embodied carbon, highlighting a more holistic approach to the built environment, launched the Carbon Leadership Forum. Also contributing vital sustainability research in their firms are Allison Anderson, FAIA, Andrea Love, AIA, and Billie Faircloth, AIA, whose innovative investigations are providing solutions and tools for progress.

There are many more women who are sharing their talents to turn AIA's sustainability goals into reality. I hope this shortlist of examples inspires us and, as we celebrate Women's History Month, recognizes the role of women in shaping architecture's future. **AIA**

Jane Frederick, FAIA, 2020 AIA President

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“Collado and de la Fuente had been practicing architecture in Chicago for nearly 20 years, but they had never come across this strange coda to the architect’s career.”

In October 2013, Luis Collado and Jose Luis de la Fuente visited Wilbur Wright College, one of the seven campuses of the City Colleges of Chicago, located in the far northwest side bungalow belt. Founders of the firm STL Architects, which often works on education projects, Collado and de la Fuente were interested in an RFQ the school had issued for a potential renovation. They knew little for certain about Wright College, but they knew what to expect. Many of the city colleges are ultra-rational Modernist boxes, deployed either with an exacting sense of proportion or as lazy replications with all the charm of an austere shoebox.

But that's not what they found. "The moment we stepped on campus, we looked at each other, and we said, 'This is *somebody's*,'" says de la Fuente. What they saw was a community college designed to be an entire world of its own. Slanted from the relentless Chicago street grid, Wright College is a series of four buildings with elevated tube walkways that plug into a stainless steel 130-foot-tall pyramid. Collado and de la Fuente approached the pyramid through a landscaped courtyard, the surrounding buildings sporting round-edged precast panels and small porthole-style windows

that would be at home on a space station.

As they got closer, they reached for their phones and started Googling. Who designed this? Then it all fell into place: the fearless use of concrete, the building-as-city superstructure, the gee-whiz retro sci-fi aesthetics.

"Shit, man. Is this Goldberg?" asked Collado.

That's Bertrand Goldberg, the last of the great Chicago Modernists. Collado and de la Fuente, both Spanish natives, had been practicing architecture in Chicago for nearly 20 years, but they had never come across this strange coda to the architect's career. "We had no idea," says de la Fuente.

With its *Alphaville*-style concrete block propagation and embrace of Archigram megacities, Wright College seems like a quintessential product of the 1960s. But it's not. The project is just shy of 30 years old, completed in 1992, five years before Goldberg's death. It is an air lock to another world; the past's vision of the future, completed long after that vision had faded. Its most salient feature is how unstuck in time it seems. "You don't know where to place it. It's kind of like mature 1960s, done in the '80s and early '90s," says Geoffrey Goldberg, Bertrand Goldberg's son, who

Wright College in Chicago, one of Bertrand Goldberg's final projects



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Far Left: Elevated tubes connect the campus buildings to the pyramid

Left: The main entrance to the pyramid

worked on the project as a young architect.

The college has a wide-eyed technological optimism, inspired by its coming of age when the sudden ubiquity of the personal computer was on the verge of transforming higher education. Today, Wright College offers lessons on how the evolution of information technology is changing the design of education and public spaces. STL was charged with reinterpreting this oddball project, which was designed by an architect who hasn't yet earned his rightful place in the pantheon of designers who made the contemporary city.

#### A True Believer

Unlike Mies, Frank Lloyd Wright, and Daniel Burnham, Bertrand Goldberg was a Chicago original, born and raised in the city, in Hyde Park. He studied at the Cambridge School of Landscape Architecture (later absorbed into Harvard), and at the Bauhaus and Illinois Institute of Technology. He worked briefly for Mies and completed a series of single-family homes in the minimalist Miesian vein.

A true believer in urbanism, Goldberg never wavered during the depths of the urban crisis that gripped cities in the middle of the 20th century. To combat government-subsidized flight to the suburbs, he proposed the “new town in town,” high-rise superstructure buildings within established urban areas that could provide all the necessary amenities and activities. Such hermetic self-containment could be credibly accused of being anti-urban, but Goldberg applied this model to the entire socioeconomic spectrum in Chicago, from his low-income apartments at the Hilliard Homes, to his luxury Astor Tower, to his middle-income Marina City complex, a sublime cross between uncompromising concrete Brutalism and the delicate order of the natural world.

One of the few books written about Goldberg, *Bertrand Goldberg: Architecture of Invention* (Art Institute of Chicago, 2011) unfurls a lineage of his influences,

including the Bauhaus, Corbusier, Mies, Archigram, the Japanese Metabolists, Bruce Goff, and Eero Saarinen. Those in turn influenced by him include Tadao Ando, HON. FAIA, and Chicago's own Jeanne Gang, FAIA (the resemblance of her Aqua Tower to the biomorphic corn-cob towers at Marina City is unmistakable).

Many of these influences are impossible to ignore at Wright College. The main entrance to the steel pyramid confronts visitors with thick concrete ribs and the semblance of a sternum hoisting up the building's second floor; an inhabitable cyborg beast that's Stanley Kubrick by way of Gaudí, or maybe even H.R. Giger with the right sort of lighting. At first glance, it's an imposing, even pharaonic, temple to the subject of Goldberg's curiosity: the personal desktop computer.

#### A Prescient Focus on the Personal Computer

Wright College seems to be the result of grand visionary premonition, but Goldberg was never a willful napkin sketcher, and the school was the result of months of technocratic sociological research. Goldberg had been fascinated with how computers could be integrated with architecture since the 1960s, and Wright College was an opportunity to design for them at a critical juncture: the early stages of a broad consumer market.

As Goldberg prophetically told the Art Institute of Chicago's architects' oral history archive: “We look forward to a time when the teachers may be permitted to originate their own educational software, much as they would write a book.” Faculty saw computers as rivals, and Goldberg wanted to break down that division. But he also called the computer a “lonely device,” in need of collaborative and social context. “It's meant for personal education, but we still have the need, it seems to me, to allow for group education, with the use of the computer,” he said. Just as presciently, the architect envisioned the emergence of cloud computing when he pushed against spending extra money to install additional fiber-optic and coaxial cable

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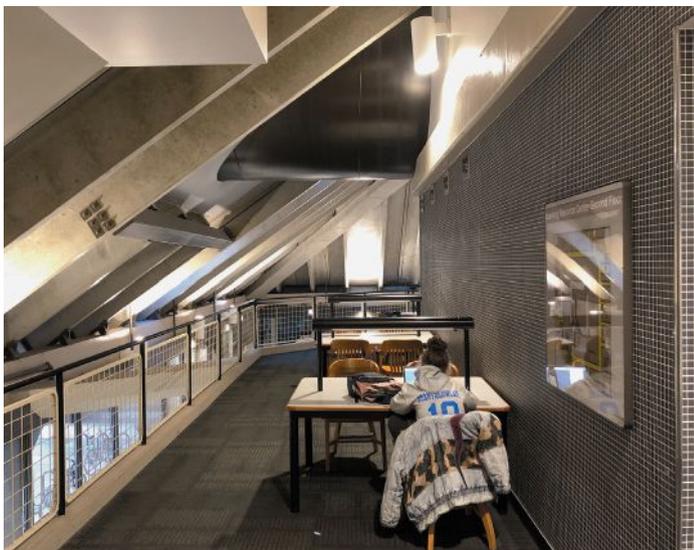
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infrastructure at the school. “My father fought long and hard, saying ‘The future is in the air. It’s not in burying money in walls,’” says Geoffrey Goldberg. “He was correct in the long term, but at that time ...”

Given the City College’s stock of Modernist boxes, the Chicago Public Buildings Commission told Goldberg, “We don’t want a round building.” Despite his past portfolio, he complied. In this way, it’s something of a return to form, toward Goldberg’s early-career Mies-influenced houses. “I think it’s rather fascinating for a very creative architect known for his forms [to work] within a constraint which is contrary, and yet still manage to do an inventive building out of that,” says Geoffrey Goldberg.

The campus’s centerpiece pyramid—called the Learning Resource Center (LRC)—is the main expression of Goldberg’s geometric compromise and grand ambition. It contains a library, faculty offices, and computer labs arranged in a variety of plans to encourage socialization and computer-aided learning. The LRC is connected via tunnels on its second and third levels to two classroom buildings clad in repetitive precast concrete panels. Completely opaque and pleasingly scaleless from the inside, the tunnels feature muted uplighting that illuminates fine-grained tile and military-green ceilings. The fourth building, not linked by tunnel, contains an auditorium, gym, and swimming pool. At ground level, all the buildings are connected by the Campus Center, a small circulation hub. Pedagogically, “all of the learning activities were tied back into the learning center,” says Geoffrey Goldberg. The LRC is the “cheese in the mousetrap.”



A small study nook in the pyramid

Computers were sprinkled throughout the LRC in groupings large and small, not limited to any specific area or program—the sense of dispersion aided by the Piranesian complexity of the library. An alternating pattern of elevated platforms at the center of the pyramid, and perimeter catwalks at its edge, brings students to the fourth-floor atrium reading room. From the ground floor looking up, it’s a crystalline web of stairs, rendered in burly concrete.

Within these layered concrete shelves of library stacks and reading desks there’s a humanist sense of intimate scale. Much of Goldberg’s planning work tended to focus on “very small-scale units of human interaction; six, eight, 10, 12 people,” says Geoffrey Goldberg. “He’s interested in smaller clusters of people. There’s a kind of individualization that runs through the work. It’s from the small pieces up. It’s not a top-down kind of thing.”

At Wright College, he says, “There’s a strange feeling in this facility that there’s an attention paid to the individual. You can find small spaces tucked here and there in the learning center. ... You tend to think it’s going to be a large, grand space, but in fact it doesn’t feel that way. You find places for people to be in.”

There are the small faculty offices, six to a corridor, each office featuring a tall, narrow window strip that staff typically decorate with plants and seating—lush terrariums amid the gray concrete. There are study nooks placed under the space tube skyways, and all manner of quiet corners at the pyramid’s canted edges. The idiosyncrasy of the space encourages you to keep exploring, to find your secret place in Goldberg’s machine.

#### Lost in Space

Collado, of STL, acknowledges that Wright College is not Bertrand Goldberg’s best work. Functionally there is no primary front door, which blurs and diffuses the otherwise dramatic entry sequence. Goldberg’s relentless uniformity and micromanaged sense of control, meanwhile, eliminates any aura of spontaneity and makes it difficult to locate yourself in space. Facilities manager and chief engineer Mike Dompke, who has worked at the building nearly since its opening, remembers studying the photography club’s images of the school and not recognizing what he saw. “I see them, and [I say], ‘Where is that?’ I think they went somewhere else,” he says. “No, they snapped the picture right on campus.”

Collado and de la Fuente repeated a similar exercise, asking students to identify the location of campus photos. “Overwhelmingly, people did not know where it was,” Collado says. “[Goldberg’s]

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Left: All roads lead to the campus center, the “cheese in the mousetrap”

Below: The interior of one of the elevated walkways

Bottom: Plants decorate a faculty office



obsession with control is his worst enemy.”

There are few larger places for spontaneous social interaction apart from the small groups the LRC accommodates well. The formality of the library setting means it’s most attuned to hushed whispers across a desk, not boisterous pin-ups across a hall—a sense of intimacy that is at odds with contemporary ideas about learning spaces. If the operative metaphor at Wright College is campus-as-city, then Collado and de la Fuente also detect a lack of a public realm at the school, the campus equivalent of parks, plazas, and sidewalks. “The celebration of community and learning are two separate things in the 1960s and ’70s,” says Collado.

What Wright College needs, according to de la Fuente, is more “social infrastructure” designed for “the spaces in-between that don’t necessarily have a program.” In the context of education, this means the “celebration of community as a learning experience,” adds Collado. Today, “places of socialization become places of learning.”

Think of the free-floating collaborative spaces that now exist between work and leisure: co-working offices with their “huddle rooms,” “phone booths,” craft beer-stocked bars, and endless spatial arrangements that prize “spontaneous interaction.” This shared material and spatial sensibility has been exported to hospitality design, residential design, cultural institutions, and of course, education, and it has evolved alongside and because of the internet. When you plop down a bunch of desktop computers today, the subtle message is that this is not actually a place to socialize. Positioning the LRC as a knowledge hub was a good idea, say Collado and de la Fuente, but now the value is in the network,



not in the hardware. So they intend to provide the built context for this social network.

STL spent a year and a half producing five volumes of research, much as Goldberg did in his day. The firm’s plan for Wright College, now 18,000 students strong, installs a two-level glass canopy over the axial courtyard between the LRC and the science classroom building. At the ground floor and in a catwalk level above, this atrium spine is lined with retail and institutional uses: coffee shop, bookstore, food pantry, student center, etc. The top level extends a single story above the classroom buildings, never challenging the primacy of the LRC, and the new link connects all four buildings in a central hub that allows students to enter each one without walking through a roundabout circular path at ground level. Glass encases Wright College’s distinctive precast concrete and stainless steel in a vitrine panopticon, allowing a new level of visual access and intimacy. And the



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canopy telescopes beyond the perimeter of the buildings, creating a covered quasi-public plaza, where community programming, like a farmers market, could take root. “It’s a city college. It’s not Princeton,” says Collado. “It’s a place where you want the community to come in and experience it.”

It’s a conventionally contemporary approach to education and public space. But Collado and de la Fuente say they do feel a responsibility to maintain the school’s fundamental out-of-time-ness. Somewhat mysteriously, their plan for Wright College was largely met with approval followed by silence; there’s been no follow-up to build it and no explanation why, though STL believes the issue may be funding. (Wright College did not respond to inquiries about its status.) At least for the foreseeable future, the school will remain unmoored from its age.

#### A Neglected Legacy

Goldberg’s work hasn’t received the attention it deserves because much of it requires a key to get into; his portfolio is thin on major public cultural institutions. Additionally, he seldom taught, and his steadfast commitment to Chicago kept him outside of the New York-centric design media axis. Similarly, Wright College has been overlooked in part because of its relative remoteness from downtown. It was already something of a nostalgia piece when it was new, and this utopian zeal for a bygone era feels a bit forced, aging it further.

But Wright College, in all of its inflexibility, insistence on control, and reverence for a very specific era of technology, has never pandered and never tried to be all things to all people. “It doesn’t pretend to be something else,” says Geoffrey Goldberg. “It’s a mature architect who knows what he’s doing late in his career. He was just doing his thing. It’s not like we had long conceptual discussions about this stuff. He carried it in his head and worked it out.” The college’s clarity of purpose came part and parcel with its outdated aesthetics. If all architecture is inherently political, then a polemic like Wright College has more integrity than a sales pitch.

As a loose, conceptual concept on a computer screen, STL’s scheme is appropriate and responsible. It respects Goldberg’s intent, and provides new spaces that cater to how students learn today, not to mention the expected suite of modern amenities. But it’s hard to shake the suspicion that Wright College would lose something if it’s forced to conform, for the first time in its history, to the present.

*This essay was originally published in Midwest Architecture Journeys (Belt Publishing, 2019) and is reprinted here with permission.*

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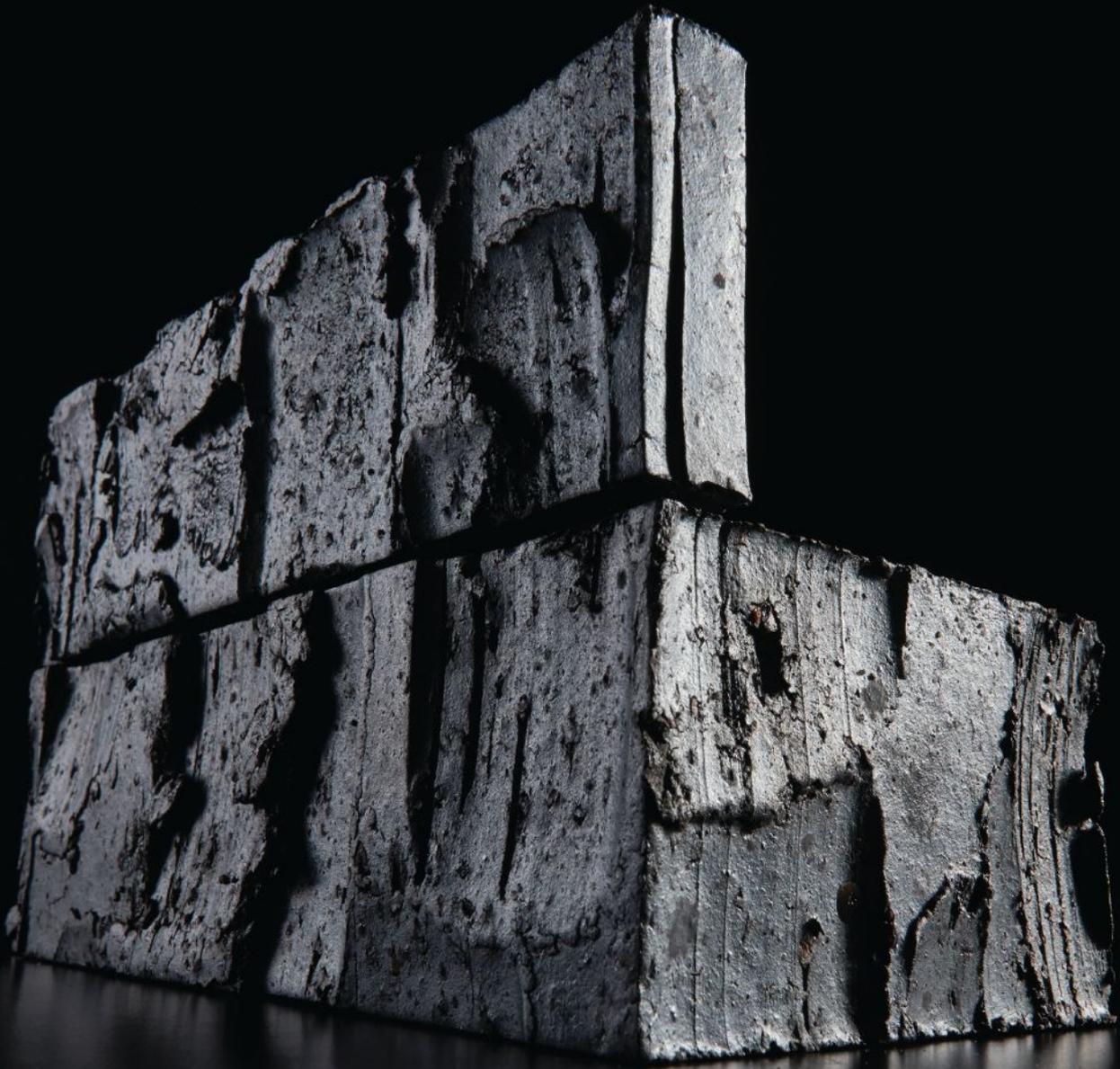


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**Inside the Closing of Taliesin's Architecture School** by Reed Karaim

The copy of Frank Lloyd Wright's autobiography that sits on Lorraine Etchell's bedside table is tattered from use, two or three dozen small green tabs marking favorite sections, page after page with sentences underlined or highlighted in yellow. Etchell first turned to Wright's book when she was an undergraduate struggling with a sense that her education wasn't all she'd hoped. She'd been intrigued by the architect since her childhood in the San Francisco Bay Area, where she regularly passed Wright's Marin County Civic Center. The ideas she found when she opened Wright's life story changed her own and led her to The School of Architecture at Taliesin, from which she is scheduled to graduate this May. "I probably wouldn't have gone to graduate school and gotten my master's if it wasn't for this school," she says.

Unless something changes, that school, a school Wright considered central to his legacy, will be closing its doors at the end of the term this spring. The reason why remains in dispute, although several individuals familiar with its recent history place the blame largely on the board of the Frank Lloyd Wright Foundation, which owns and operates Taliesin near Spring Green, Wis., and Taliesin West, outside Scottsdale, Ariz.

Under the leadership of current chairperson Stuart Graff, the board never really understood the school, critics say, considering it more of a burden than a critical part of Wright's legacy. Graff refused repeated requests to talk to ARCHITECT. (Dan Schweiker, the school board chair, also declined to be interviewed.) But in published statements and earlier interviews, Graff said the school, which has been supported financially by the foundation, could not come up with a sustainable, long-term financial plan to support itself and refused the foundation's offer to continue operations or another year or two.

What is certain is that, barring a last-minute change of heart, a small but unique institution, one in which students are taking the philosophy behind Wright's organic architecture not as Holy Writ but as a springboard they can use to pursue their own developing ideas about design, is about to disappear. Whatever the school's financial situation, this is an end that Wright, who never let fiscal propriety hold him back, almost certainly would have mourned.

#### **A Place for Hands-On Learning**

The School of Architecture at Taliesin has its origins in Wright's apprentice/fellowship program, which he started in 1932. It was clearly dear to his heart. In his will, Wright left his entire estate to the program and the foundation, which was created in the 1940s to support the school and encourage the "teaching of the

art of architecture and collateral crafts."

Wright hoped the school would foster an education where students learned, in part, by getting their hands dirty: shoveling dirt, mixing cement, putting up the walls and raising the rafters integral to their designs. He hoped to promote the ideas of organic architecture, but also described the program's goal as developing a "creative human being with a wide horizon."

More than 1,200 students have studied at Taliesin during its 88 years, including John Lautner and E. Fay Jones, who won the AIA Gold Medal in 1990. Currently, about 30 students are enrolled in the school; they move seasonally between Taliesin and Taliesin West, Wright's winter home. In the 1980s, with the support of Wright's widow, Olgivanna, the school received formal accreditation as a graduate program in architecture. It is probably best known for the shelters the students build to live in—the embodiment of that hands-on approach.

On a bright winter day, Etchell showed me around the shelters at Taliesin West. For environmental reasons, the students are no longer allowed to strike out into virgin desert and must build on existing sites. Etchell is working on the remains of a site that includes a couple of cinder block walls. Originally, she was thinking of tearing down and starting fresh. But then she "looked harder and started to see the relationship between the existing structure and what was out there," she says, gesturing toward the desert. Etchell's shelter project, central to each student's master's thesis, evolved into an exploration of "this illusion of separation between past and future—the new coming out of the old and making you aware that they're not separate."

Etchell's design may or may not fall under a strict definition of organic architecture, but standing in the old shelter with the tumbled and sun-washed desert landscape all around us, she told me that she saw it as true to Wright's approach—what she described as a commitment to a kind of intense seeing, a focus on the relationships that animate a place, and the freedom to build on that to create something uniquely your own.

Etchell took me on a tour of other dwellings, including Brittlebush, a dramatic combination of swooped and peaking fabric roofs and concrete that incorporates an open-air sleeping platform above a fireplace and a shaded patio. Simon De Aguero, ASSOC. AIA, who designed Brittlebush in 2010, now works for Atkin Olshin Schade Architects in Santa Fe, N.M. The shelter program, he says, played a big role in bringing him to the school. "I really wanted to build something," he remembers, "and I knew that was going to be part of the process of being there."

Etchell and De Aguero emphasized that, under recent leadership, the school hasn't tried to turn



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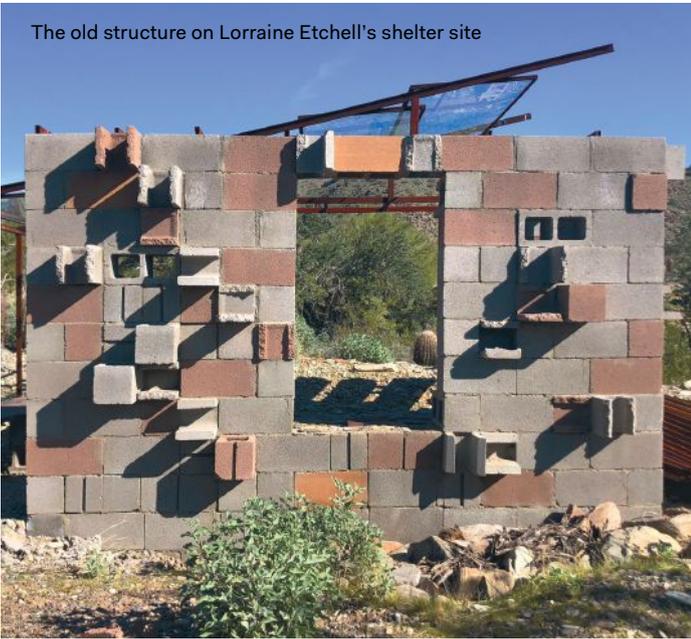
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The old structure on Lorraine Etchell's shelter site



out Wright clones. “We weren’t forced to stylistically emulate Frank Lloyd Wright’s work. You could choose to, and some students did, and that was fine,” says De Agüero. “But what we all did do, was we got to live and work in masterpieces of architecture [by Wright] and every day deal with its pitfalls and its strengths and its beauty.” He also remembers the power of living “with nature, especially in Taliesin West,” and spending time in the Wright archives. In the end, he says, “It just rubs off on you, no matter what.”

Reed Kroloff, dean of the Illinois Institute of Technology College of Architecture in Chicago, served on both the Taliesin school and foundation board within the last decade. “What is lost is the last place where his particular philosophy, his particular way of seeing the world, is under active consideration and discussion,” he says. “The critical thing we lose is an important and interesting conversation, and one that has yielded over its life substantial change in the way all of us live.”

Like many of those with a past or present association with the school, Kroloff feels strongly the loss did not have to happen.

#### **A Long-Simmering Debate**

On Jan. 27, a Monday, the students at The School of Architecture at Taliesin received an email that there would be an all-school meeting the next morning. “We all met in the atrium,” Etchell remembers. “Aaron [Betsky, the school’s dean and an ARCHITECT contributor] took an hour. ... He told us the school would be closing.”

The stunning announcement marked the public end to a private struggle between the school board and the foundation board over how the school might continue

operations. In the subsequent fallout, both sides presented very different versions of those negotiations.

The background is fairly straightforward. In 2017, to meet the requirements of an accrediting organization, the school and foundation split into separate entities. At that time, a memorandum of understanding—which expires this summer—was signed to govern their relationship. Schweiker, the school board’s chair, has said the school presented a proposal to the foundation to extend the memorandum for two years while it explored options to improve its financial viability. He acknowledges the school needed to broaden its support, but said it had enough money and donors that its immediate future was not in doubt.

The foundation, he said in a statement, countered with only two options: One was to close this summer. The other was to stay open for the 2020–2021 academic year but immediately terminate its accreditation. The foundation also wanted the school to help create a new, non-accredited education program run by the foundation. Since the loss of accreditation would have almost certainly led to a mass exit of students and donors, Schweiker said the school board felt it had no choice but to close the school at the end of this term.

An interview Graff gave to *Architectural Digest* seems to back up part of those claims. Graff said the foundation offered a proposal in which the school would have dropped accreditation to stay open through the following summer. But in a later release intended to clear up “misinformation,” Graff said the foundation thought it had an agreement with the school that would have allowed second- and third-year students to complete their accredited degrees at the school and first-year students to take an accelerated program that would have accomplished the same. He placed the blame for the closing squarely on the school board and administration, saying they had never come up with a viable road map to financial self-sufficiency. He said the foundation, which maintains and operates both Taliesin and Taliesin West, does not have large cash reserves to support the school.

An accurate picture of the two institutions’ finances is difficult to bring into focus. Based on the 2017 memorandum, the school has failed to reach its projected increases in enrollment and tuition revenues, although the number of students has grown from 20 to 30 in the last five years. And Betsky had mounted a successful 2015 fundraising campaign that raised \$2 million, evidence of the school’s potential to grow its base of support.

Graff insists the foundation remains committed to “extending Wright’s legacy of educating architects” through a new program that could include K–12



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programs, adult education, and joint efforts with new partners. Still, it seems fair to ask why—if the foundation is willing to spend money to create a new program, one that is not even accredited—it couldn't have simply continued supporting the existing school?

This year's impasse appears to be the final chapter in a split that had been growing for years. "The [foundation] board never really understood the school. It never seemed to respect, even then, the intention of Wright's," says Kroloff about his time on the boards. "They didn't want to recognize the fact the foundation was set up to perpetuate the school and to perpetuate his legacy in organic architecture."

Kroloff sharply disputes Graff's characterization that the school had become a serious financial burden to the foundation. "I've seen their books. I know what the financials said. The school was not draining them. ... This was purely an act on their part to rid themselves of something that they found bothersome."

In his interview with *Architectural Digest*, Graff insisted the foundation isn't out to rid itself of the

school. "We believe in the program," he said. "We just wanted to make sure that in the best interest of the students it was sustainable. Give me a sustainable model, I'm there."

Victor Sidy, AIA, who served as dean from 2005 to 2015 of what was then the Frank Lloyd Wright School of Architecture, acknowledges the school wasn't self-supporting, "but I can also say it was never meant to be self-supporting. ... During the time that I was head of the school, we were never questioned about the need for financial sustainability." Nevertheless, he says the school had made strides toward self-sufficiency, and with an increase in enrollment of only four students, to a total of 34, would have reached the point where "it would have been a very small drag on the foundation."

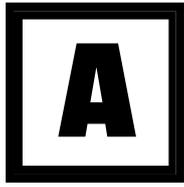
Sidy saw a change in the foundation's attitude with the split in 2017, when what had been a partnership effectively became a landlord-tenant relationship. "This was an organization that I had known as being generous and future-oriented," Sidy says, "and what I see now is an organization that is selfish and shortsighted."



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### More Than a School

At the end of my shelter tour, Etchell and I sat down at an open-air plaza where students often gather. Both she and De Aguilar stressed the strong sense of community that develops when students live and work so closely together. In a statement about the closing, the students said they are losing more than just a school: “We are losing our home, our deeply interwoven community, and the chance to pursue our education at a truly unique, experimental institution.”

Alumni also have spoken out, both in the media and in a letter signed by more than 20 former students that calls on the boards to reconsider their decision. Whether any of this will matter remains to be seen, but Sidy holds out hope. “If the Frank Lloyd Wright Foundation had any interest in turning a sad situation into a positive one, they could do it,” he says. “Absolutely they could do it, if they had the will.”

The school is currently working out an agreement with the Herberger Institute for Design and the Arts at Arizona State University in Tempe so the Taliesin

students can complete their degrees there. But Etchell says the experience won't be the same. Before the announcement, she says, “we were really excited about our future. ... We had relationships starting to grow in China, maybe an exchange program. We had the project in Globe. All of these things we were going to build on.”

In Globe and Miami, two small towns in Arizona, students were helping locals rethink their built landscapes. Etchell plans to continue working in Globe after her graduation, including on a proposal to convert the old train depot's grounds into a town plaza. She sees the project as an iteration of Wright's ideals, creating an organic design that evolves out of the character of a small community. It reflects the founding mission of the Taliesin school—one she feels has been abandoned by a foundation more concerned with maintaining Wright's buildings than building on his philosophy. “They've forgotten what the purpose of this was all about,” she says, “furthering an idea, not just preserving the idea.”

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# p/a

> For more images of each of the winning projects, visit [bit.ly/67thPAAwards](http://bit.ly/67thPAAwards).

# The 67th Annual Progressive Architecture Awards

# Community Builders

This year's jurors—Ann Lui, Christiana Moss, and Lorcan O'Herlihy—found evidence of progress in six projects that embrace, and even foster, community. Whether addressing equity at the scale of a housing complex or a city, or analyzing humanity's place in the greater contexts of evolution, nature, or climate change, these six winning projects look beyond the bounds of their sites and programs to improve the world around them. In so doing, they demonstrate the enriching impact of design on our collective experience.

### JURY

- Ann Lui**  
Future Firm, Chicago
- Christiana Moss, FAIA**  
Studio Ma, Phoenix
- Lorcan O'Herlihy, FAIA**  
Lorcan O'Herlihy Architects, Los Angeles

EDITED BY  
KATIE GERFEN

PROJECT  
DESCRIPTIONS BY  
EDWARD KEEGAN, AIA,  
AND IAN VOLNER

## Citation

**Bay State Commons Cohousing  
Malden, Mass.  
French 2D**

### Project Credits

*Project:* Bay State Commons Cohousing, Malden, Mass.

*Client:* Bay State Commons

*Architect:* French 2D, Boston · Jenny French, Anda French, AIA (partners); Estelle Yoon (summer intern)

*Architect of Record:* Linda Neshamkin, AIA

*Structural Engineer:* TFMoran

*MEP Engineer:* Norian/Siani Engineering

*Civil Engineer:* H.W. Moore Associates, a division of Hancock Associates

*Geotechnical Engineer:* McPhail Associates

*General Contractor:* Landmark Structures

*Landscape Architect:* CBA Landscape Architects

*Development Consultant:* Urban Cohousing

*Specifications:* Putnam Associates

*Acoustical Consultant:* Cavanaugh Tocci Associates

*Energy Consultant:* CleaResult

*Code Consultant:* Commercial Construction Consulting

*Size:* 33,500 square feet (living area); 15,200 square feet (underground garage)

*Cost:* Withheld

Building exterior (at center) in neighborhood context uses language from single-family construction

Ground-Floor Plan Diagram



Second-Floor Plan Diagram



“The way they are presenting this suggests they are thinking of it as a very large single-family house that involves 30 mini, family parts—and I like the representational style, too.”

—Ann Lui



As American cities struggle to provide adequate affordable housing, Boston firm French 2D has hit on a model for high-density, high-quality, highly customized residential construction that slips seamlessly into a low-density neighborhood of detached single-family houses. Bay State Commons Cohousing is located in the quiet bedroom community of Malden, Mass.—exactly the type of environment where NIMBY sentiment can make multi-unit housing prohibitively difficult to build.

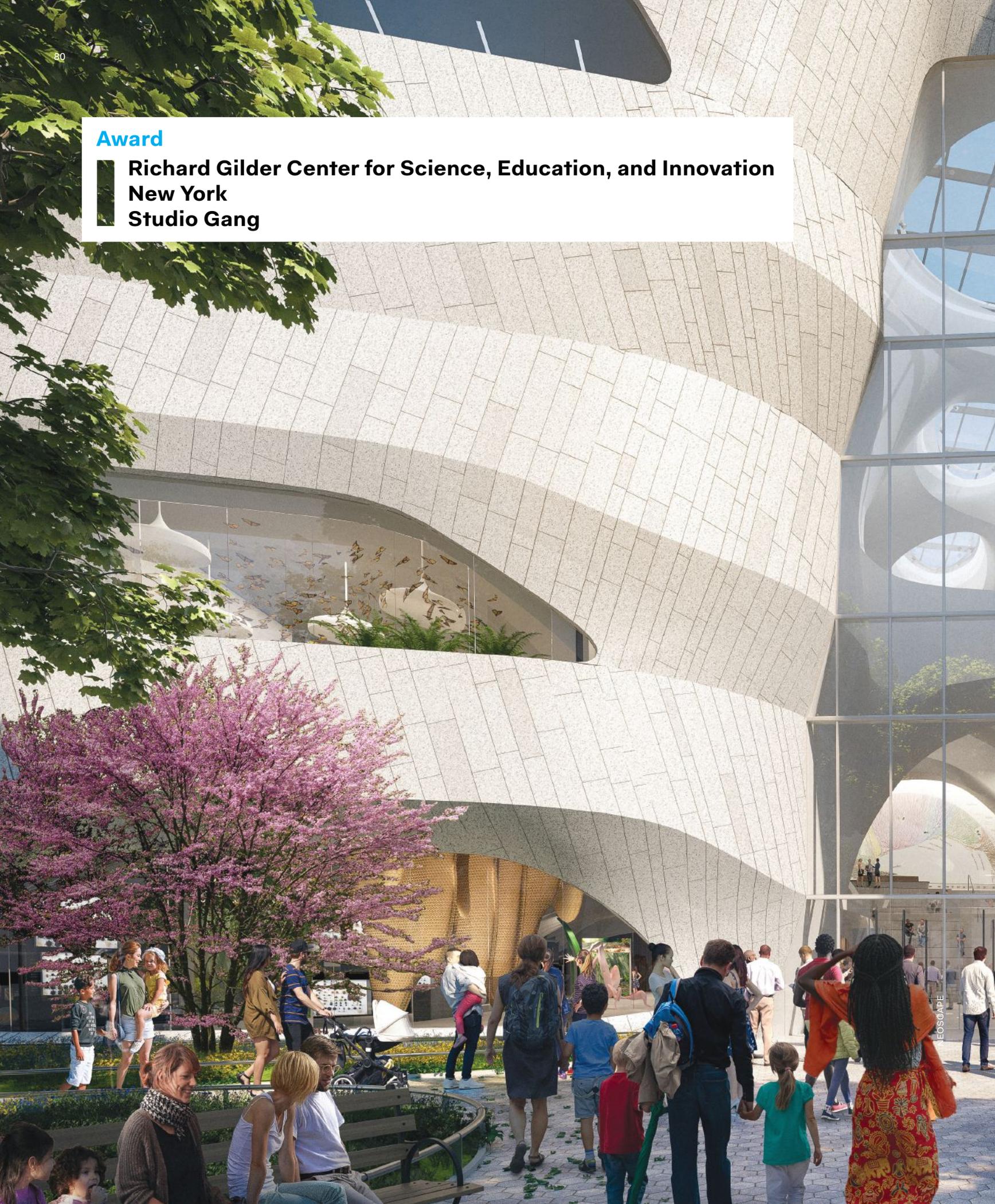
French 2D’s solution effectively cloaks the condominium building in an envelope with gabled roofs, a wood façade, and assorted vernacular touches that make it read less like a single structure than a gaggle of traditional, free-standing row houses, or even an eccentric Victorian mansion. This effect is actually a trick of the eye, achieved through subtle planar modulations and shifts in scale that speak to a very contemporary sensibility.

More importantly, the building’s true motivation is to carry out a decidedly urban program: The 100 occupants of the building’s 30 studio to three-bedroom units all rely on shared amenities—a communal dining room, recreation spaces, kitchen, even rooms for art classes. This cohousing scheme was developed by the residents, who pooled resources to form the client entity. A participatory design process ensured each voice was heard and individual needs accounted for.

The architects have facilitated this arrangement with a plan that subtly modulates between the private and public spheres: stairways and exterior corridors connect apartments to one another and a central green space below, where a community garden doubles as a front yard for the lower-most apartments. The net result is a building as radical as the “social condensers” favored by 20th-century Russian Modernists, but adapted to the social realities and pressing needs of the American metropolis in the 21st century. —I.V.

**Award**

**Richard Gilder Center for Science, Education, and Innovation  
New York  
Studio Gang**



An architectural rendering of a museum plaza. The main building is clad in grey stone with large, dark, curved openings. To the left is a glass-walled structure with a large circular skylight. A diverse group of people, including families with strollers, are walking in the plaza. In the background, there are museum exhibits with text and images of mountains and minerals.

"I like the material exploration, and there's an eye here—a good eye. It is hard to pull off formally, but the idea of the ice and the glacier brings a great clarity to it. And it seems appropriate for a natural history museum."

—Lorcan O'Herlihy, FAIA

Plaza with view into central circulation spine

### Project Credits

*Project:* Richard Gilder Center for Science, Education, and Innovation, New York

*Client:* American Museum of Natural History

*Architect:* Studio Gang, Chicago · Jeanne Gang, FAIA (founding principal/partner);

Weston Walker, AIA (design principal/partner)

*Executive Architect:* Davis Brody Bond, New York · Carl F. Krebs, FAIA (partner); Mark Wagner, AIA (associate partner)

*Internal Team:* American Museum of Natural History, Curatorial and Exhibition Design

*Exhibition Designer:* Ralph Appelbaum Associates

*Structural/Acoustical Engineer:* Arup

*MEP/FP Engineer/Façade Consultant:*

BuroHappold Engineering

*Civil/Geotechnical Engineer:* Langan

*Construction Manager:* AECOM Tishman

*Landscape Architect:* Reed Hilderbrand

*Lighting Designer:* Renfro Design Group

*Owner Representative:* Zubatkin Owner Representation

*Signage Design:* Pentagram

*Theater Design:* Tamschick Media+Space

with Boris Micka Associates

*Sustainability:* Atelier Ten

*Vertical Transportation:* Van Deusen &

Associates

*Loading Dock:* Kleinfelder

*Information Technology:* Shen Milsom Wilke

*Security:* Ross & Baruzzini | DVS

*Cost Estimating:* Cost+Plus

*Stone:* Vincent Marazita

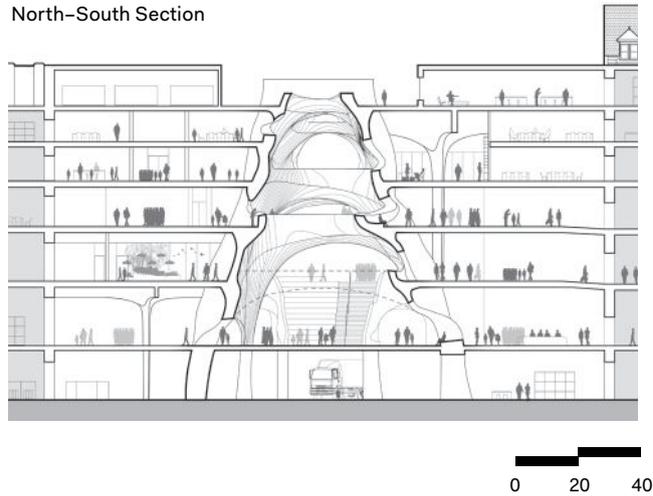
*Preservation:* Higgins Quasebarth & Partners

*Collections/Labs:* Walter Crimm Associates

*Size:* 230,000 square feet

*Cost:* \$383 million

North-South Section



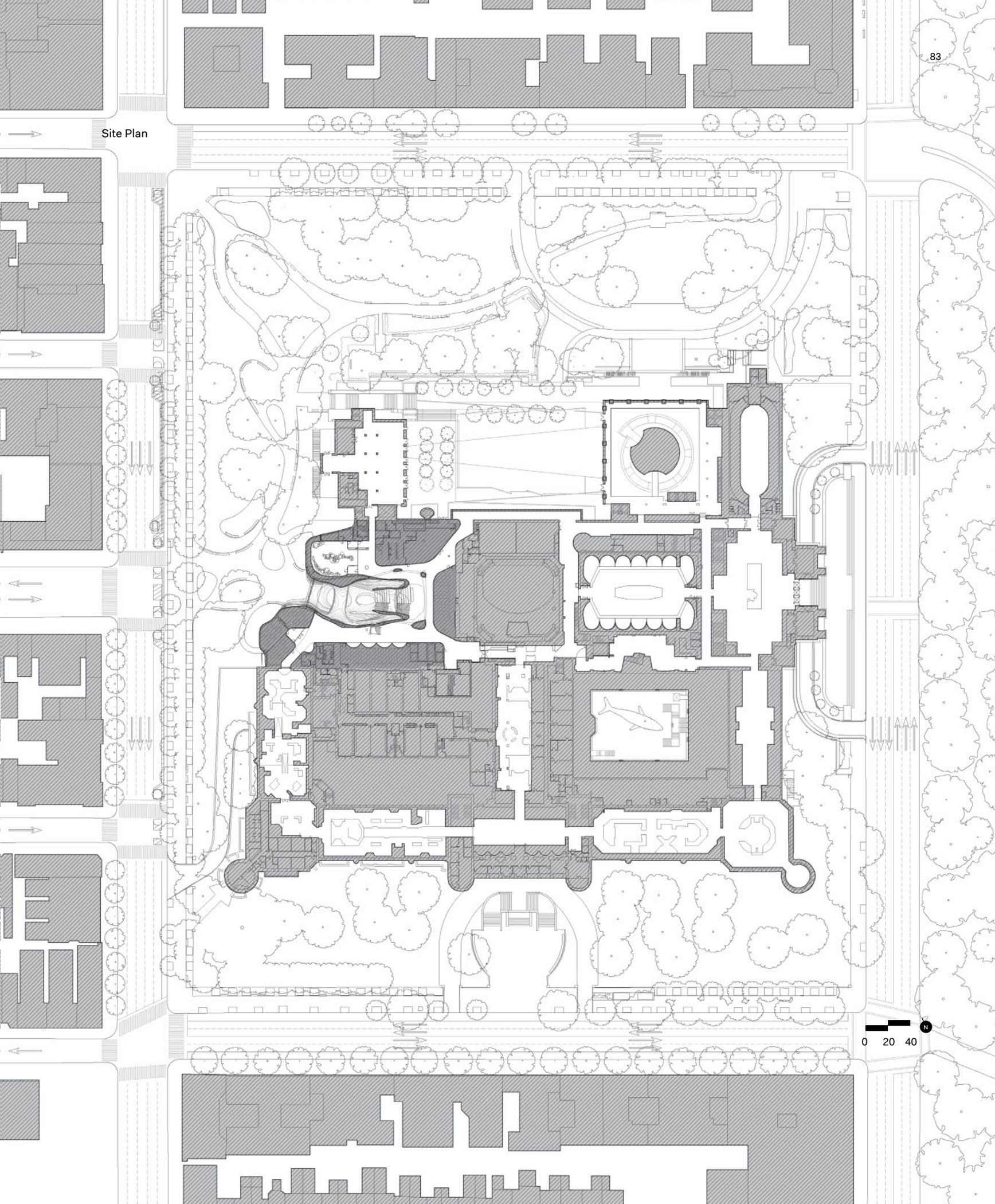
Since it opened on Manhattan's Central Park West in 1877, the American Museum of Natural History has grown into an improbable hodgepodge of buildings, ranging from Neo-Gothic to Neo-Romanesque to Neoclassical. Now, it's set to receive a robustly contemporary addition—and a much-needed one, allowing it both to expand its exhibition spaces and to give a public face to its long-neglected backyard. Studio Gang's Richard Gilder Center for Science, Education, and Innovation is at once an urbanistic coup and a daring museological experiment.

A lofty central exhibition hall forms the spine of the new wing, and it forges an immediate connection with the material on display: Warped and biomorphic, the structure's design is influenced by the form-making forces of ice and water, expressed through an innovative concrete blend; its cavernous nooks and crannies give the visitor a thrilling sense of discovery. The adventure continues in the adjacent exhibition

spaces, including a new section devoted to insects and another to butterflies, as well as educational spaces, a lecture hall, and more, all arrayed around the main entry foyer and accessible through the catacomb-hollows of the concrete core.

As the crowds circulate freely through the building's passageways, they'll catch glimpses of scientists hard at work in adjacent study spaces—picking apart fossils or examining rare specimens—courtesy of a new open-storage system that will bring an enormous amount of the museum's back catalog into public view. And as if all this interior dynamism weren't enough, Gang's solution also provides for a dramatic new exterior on the Columbus Avenue side, complete with a public plaza enfolded by the canyon-like forms of the Central Hall. The museum complex, which has always turned its back on its Upper West Side neighbors, now presents them with an extraordinary new entryway, a tantalizing foretaste of the treasures within. —I.V.

Site Plan



0 20 40





Guesthouse exterior, with view to living space within

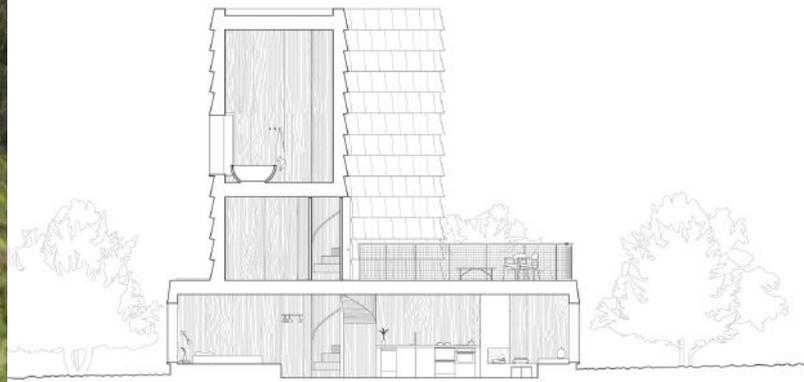
**Award**

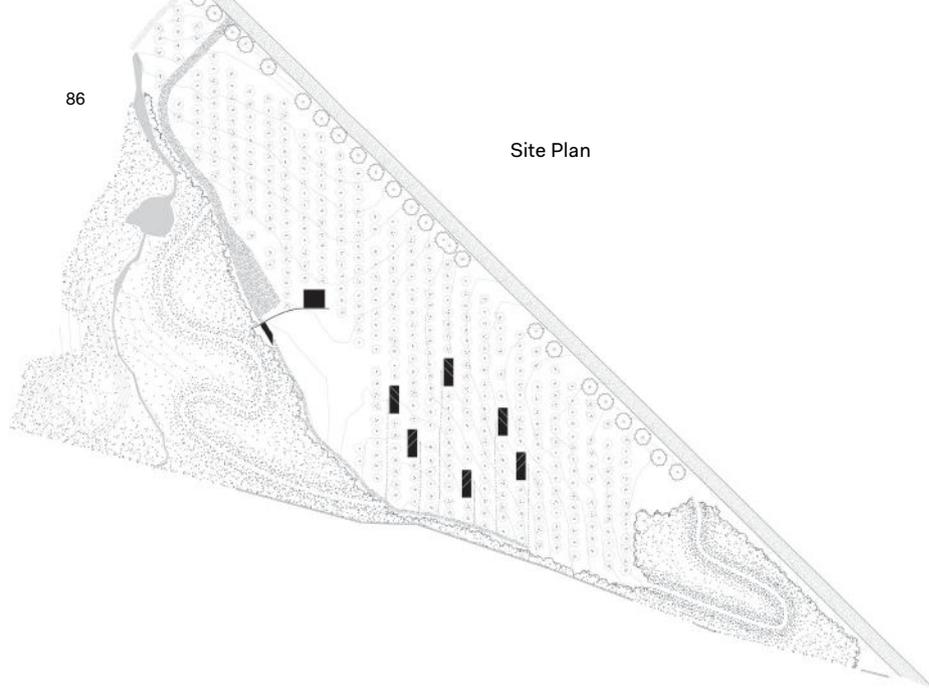


**Elsewhere Hudson Valley  
Livingston, N.Y.  
WOJR**

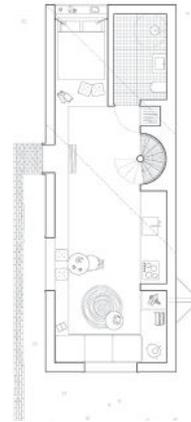


Typical Guesthouse Section

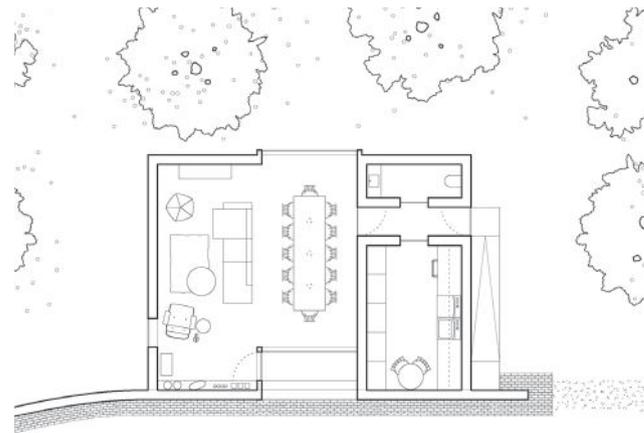




Site Plan

Typical Guesthouse  
Ground-Floor PlanTypical Guesthouse  
Third-Floor Plan

Entrance Pavilion Plan



Approximately 100 miles north of New York City, a defunct apple orchard in Livingston, N.Y., provides the evocative site for Cambridge, Mass.-based WOJR's dreamily named Elsewhere Hudson Valley complex of six free-standing guesthouses and an entry pavilion.

Visitors access the complex via an atmospheric brick-arched tunnel whose narrow confines provide a threshold between parking and landscape. Once inside the walled site, an entry pavilion in a simple, single-story volume provides shared living, dining, and kitchen spaces. Beyond that structure, the complex's six guesthouses are slotted on their own allées within the orchard, each taking the place of a handful of trees in the landscape. Each structure's narrow ground level features living, kitchen, dining, and sleeping accommodations, and is connected via a spiral stair to two upper levels: a second that's primarily an outdoor roof deck, and a third (dubbed "the perch" by the designers) with an indoor soaking tub overlooking the landscape. The upper volumes are contained within a rhomboid volume whose orientation varies from building to building to preserve privacy for each guest. A simple palette includes gray-stained plywood "shingles" that clad the wood-framed houses and create an ambiguous scale for the objects in the landscape; interiors are finished in more conventional plywood sheathing.

The solution is an exercise in rural urbanism—each of the structures is quite close to its neighbors, with privacy protected by diverting views rather than increasing distance. The three levels of each building allow visitors to experience the distinct vertical spatial qualities of the apple orchard—open at the ground, within the treetops at the roof terrace, and open to expansive views above the trees at the perch. The designers note a desire to project an "atmosphere of pensiveness." Through exact and thoughtful architectural gestures and spatial ingenuity, Elsewhere Hudson Valley promises to deliver such a place. —E.K.

#### Project Credits

*Project:* Elsewhere Hudson Valley, Livingston, N.Y.

*Owner:* Luckless Enterprises

*Developer:* Brighthouse Properties

*Design Architect:* WOJR, Cambridge, Mass. · William O'Brien Jr., Grace McEniry, Justin Gallagher, John David Todd, Adam Murfield (project team)

*Architect of Record:* Jon Lott

*Structural Engineer:* Simpson Gumpertz & Heger

*Civil Engineer:* Coughlin Porter Lundeen

*Construction Manager:* RAPP Construction Management

*Visualization:* D-Render

*Size:* 650 square feet (per guesthouse); 750 square feet (entry pavilion)

*Cost:* Withheld



Second-floor roof terrace with view to other guesthouses



Entrance to site

“It challenges the status quo of its type with how it engages the landscape, the idea of materiality, its spatial qualities, and how it fits in its context.”

—Lorcan O’Herlihy, FAIA

**Citation**

**Mennello Museum of American Art  
Orlando, Fla.  
Brooks + Scarpa**





Addition has several indoor/outdoor areas for gatherings and events



Deep overhangs shade glazing, contributing to a sustainable strategy that primarily uses energy produced on-site

“I applaud the intentionality in adapting an existing place and taking a stand on its sustainable ambitions, and I would have liked to see an even more holistic, net-positive approach.”

—**Christiana Moss, FAIA**

Brooks + Scarpa wrap three sides of the 12,000-square-foot Mennello Museum of American Art building in Orlando, Fla., with an appealing kit of simple volumes and extended overhangs that thoroughly integrate inside and out—and transform the former house into a cultural complex with forms reminiscent of classic Florida Modernism. The 48,700-square-foot addition provides galleries, lobby, administration, conference, education, and back-of-house facilities.

The \$22 million project develops a series of new spaces on each side of the existing building that integrate the landscape of the surrounding Loch Haven Park and the adjacent Lake Formosa as essential elements of the complex. A new pavilion at the east end holds multipurpose facilities that can be rented out for additional revenue; between the two structures, which are linked by an interior bridge and common roof, is a bilevel outdoor plaza leading down to the lake and on axis with the “Mayor tree,” a 200-year-old

live oak draped in Spanish moss. Sunlight filtering through its limbs inspired the exterior expression of the new structures, which feature randomized vertical striations in the precast concrete surface to produce a similarly dappled effect on the building’s face.

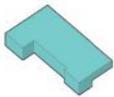
Tilt-up concrete and cross-laminated timber contribute to a sustainable envelope that can be responsive to central Florida’s extreme—and fragile—climate. New central gallery spaces are topped by north-facing saw-toothed clerestories that provide natural light while creating discrete rooftop locations for solar arrays; a micro-turbine and on-site lithium battery storage system will allow the museum to use grid-supplied power solely on a supplemental basis.

The design balances the quiet spaces necessary for the thoughtful contemplation of art, the bold forms essential to revitalizing a civic institution, and the sustainable measures required for successful contemporary development. —E.K.

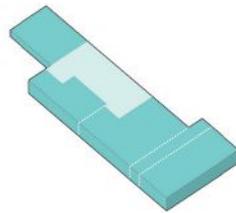


Gallery interior lit by diffuse north light from sawtooth clerestories

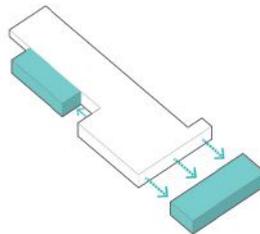
Existing Building



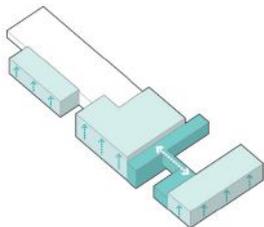
New Program Volume



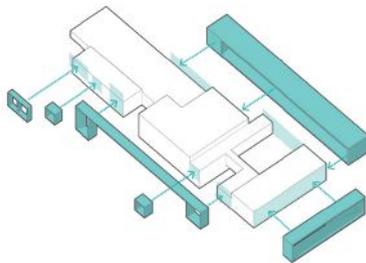
Separate Multipurpose Space



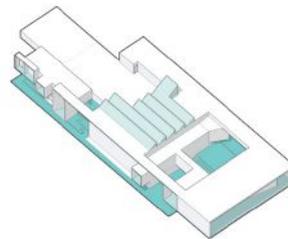
Bridge Across



Wrap Volume With Open Frames



Articulate Massing



#### Project Credits

**Project:** Mennello Museum of American Art, Orlando, Fla.

**Client:** Friends of the Mennello Museum of American Art; the City of Orlando  
**Design Architects/Landscape:** Brooks + Scarpa, Fort Lauderdale, Fla. · Lawrence Scarpa, FAIA, Arty Vartanyan, ASSOC. AIA (lead designers); George Faber (project architect); Angela Brooks, FAIA, Jeffrey Huber, AIA, Dio Ichillumpa, Yimin Wu, Fui Srivikorn, Todd Funkhouser, Iliya Muzychuk, Micaela Danko, Eleftheria Stavridi, Jennifer Doublet, ASSOC. AIA, Heather Akers, AIA (project design team)

**Architect of Record:** KMF Architects, Orlando, Fla. · Eric Kleinsteuber, AIA (principal-in-charge); Joe Morgan, AIA, Carl Shea, AIA, Rodney Bryant, Samantha Scimè, ASSOC. AIA, Stephanie Doherty, Bill Emery (project team)

**Structural Engineering:** John Labib + Associates

**Electrical Engineering/Lighting:** Stantec

**Mechanical Engineering:** Gausman & Moore

**Lighting Design:** Luminescence

**Wayfinding:** Brooks + Scarpa with KMF

**Size:** 48,700 square feet (new construction), 12,000 square feet (renovation)

**Cost:** \$22 million

An aerial photograph of St. Louis, Missouri, taken at sunset. The city's skyline is visible in the distance, with the Gateway Arch and several skyscrapers illuminated. The Mississippi River flows through the city. In the foreground and middle ground, a grid of streets and green spaces is overlaid with a glowing, golden-yellow light, representing an urban strategy or development plan. The sky is a mix of orange, pink, and blue, with some clouds.

“With this urban strategy, they are trying to break through invisible boundaries that have been put in place by exploitative mortgage practices. I want the discipline to be reckoning with these types of things.”

—Ann Lui

**Award**

**Chouteau Greenway Framework Plan  
St. Louis  
Stoss Landscape Urbanism**



Aerial view showing four sites and greened links between them



The Chouteau Greenway Framework Plan is the work of Stoss Landscape Urbanism, created in conjunction with a multidisciplinary team. The integrated approach was all but necessary given the very daunting brief, to create corridors of parkland in St. Louis that connect four existing green spaces located several miles from one another: the famed Gateway Arch grounds on the Mississippi riverfront, the city’s sprawling Forest Park to the west, Fairground Park to the north, and Tower Grove Park to the south. The Stoss team’s plan achieves that objective and a great deal more—tying together not only the four sites but 20 adjacent neighborhoods to forge a remarkable new urban constellation.

The concept’s title, “The Loop + The Stitch,” gives some sense of the solution: The plan attempts to knit a city that has been fractured by inequity and divided by redlining together again with a series of greenways. These connectors sprout from a central spine along Chouteau Avenue—one of the city’s primary but least pedestrian-friendly arteries. Native plantings, street furniture, lighting, wayfinding, and recreational amenities activate the spine and its assorted spokes, channeling movement between the four sites and encouraging foot traffic through the surrounding areas, reconnecting once-isolated communities.

No less important than its trees, plants, and playgrounds, the design also provides space for artworks and interpretative materials that will reflect the history of the city and its people, giving visitors and locals alike a showcase of St. Louis’s vibrant culture and complicated history. Crucially, in a refreshing break from major park projects in other American cities, Stoss’s Chouteau Greenway is not primarily geared for residents already benefiting from more than adequate public space and city services. Winding through poor and rich neighborhoods alike, “The Loop + The Stitch” grapples with the city’s history to create a common ground for all St. Louisans, reconnecting them to their past and to each other. —I.v.

- Redlined neighborhood from 1937 Home Owners’ Loan Corporation residential security map
- + Civil War Barracks
- Roads of Mill Creek Valley prior to demolition



#### Project Credits

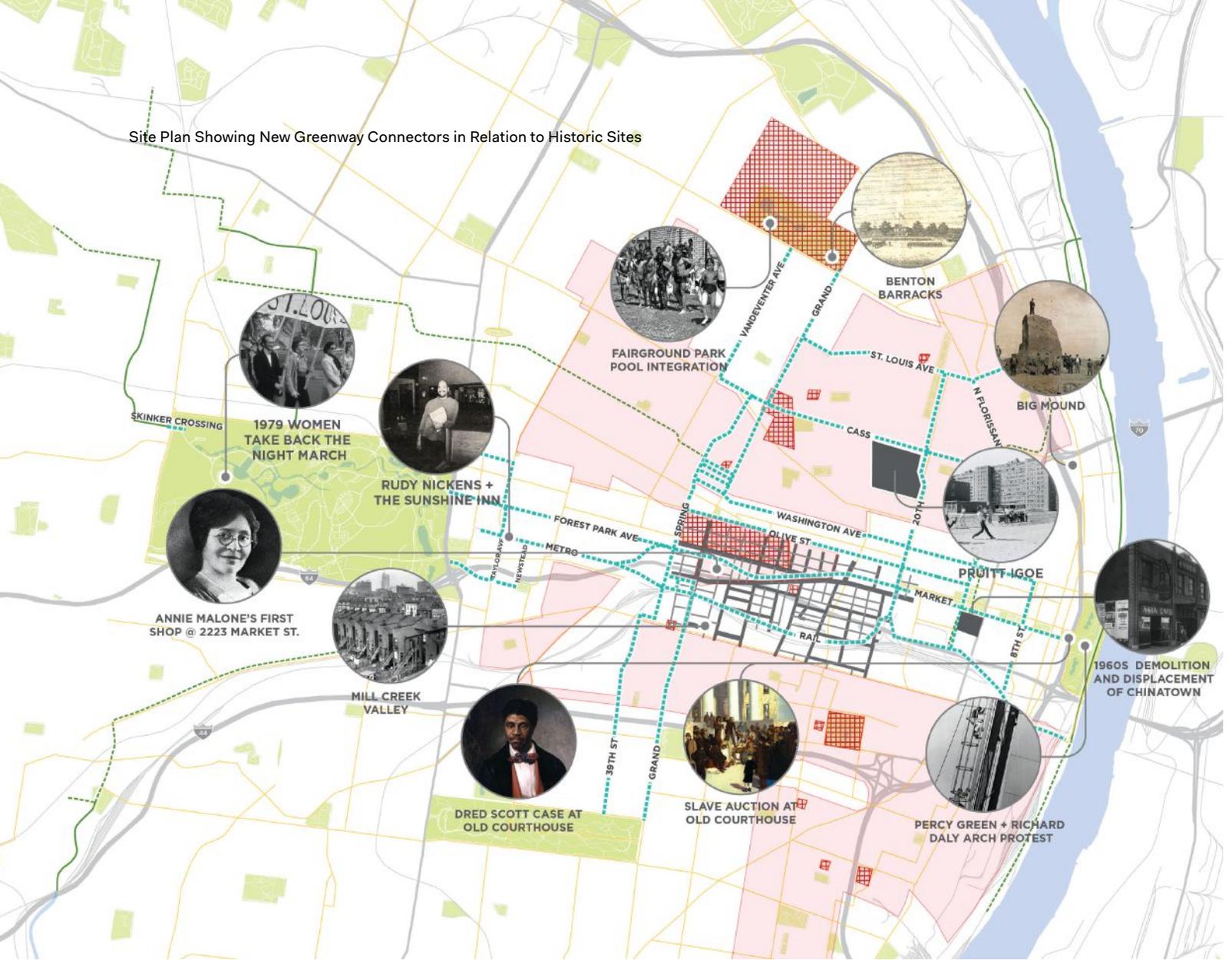
*Project:* Chouteau Greenway Framework Plan, St. Louis

*Client:* Great Rivers Greenway

*Project Lead:* Stoss Landscape Urbanism, Boston · Chris Reed (design director); Joonyon Kim (designer-in-charge); Gillian Hutchison (project manager); Lisa Hollywood (assistant project manager); Elaine Stokes (senior designer); Albert Chen, Difei Ma, Grace Jiranuntarat; Han Yu, Rawan Al-Saffar, Sonny Xu, William Baumgardner (designers)

*Project Team:* Stoss Landscape Urbanism (lead/prime); UrbanAC/Toni L. Griffin; Lamar Johnson Collaborative; ALTA; Marlon Blackwell Architects; Damon Davis / Heart Ache + Paint; De Nichols/Civic Creatives; Mallory Nezam/ Joy + Justice; David Mason + Associates; HR&A Advisors; Lochmueller Group; DJM Ecological Services; Tillett Lighting Design Associates; Bruce Mau Design

Site Plan Showing New Greenway Connectors in Relation to Historic Sites



Greened streets prioritize pedestrians and social connections

**Honorable Mention**

**Edmonton Valley Zoo Children's Precinct – The Above Zone  
Edmonton, Alberta, Canada  
The Marc Boutin Architectural Collaborative**



Section diagram showing different viewing platforms

“It’s a somewhat radical and progressive idea to design for the harmony and wellness of other beings, and it’s an inspiring direction for our profession and the natural environment.”

—Christiana Moss, FAIA

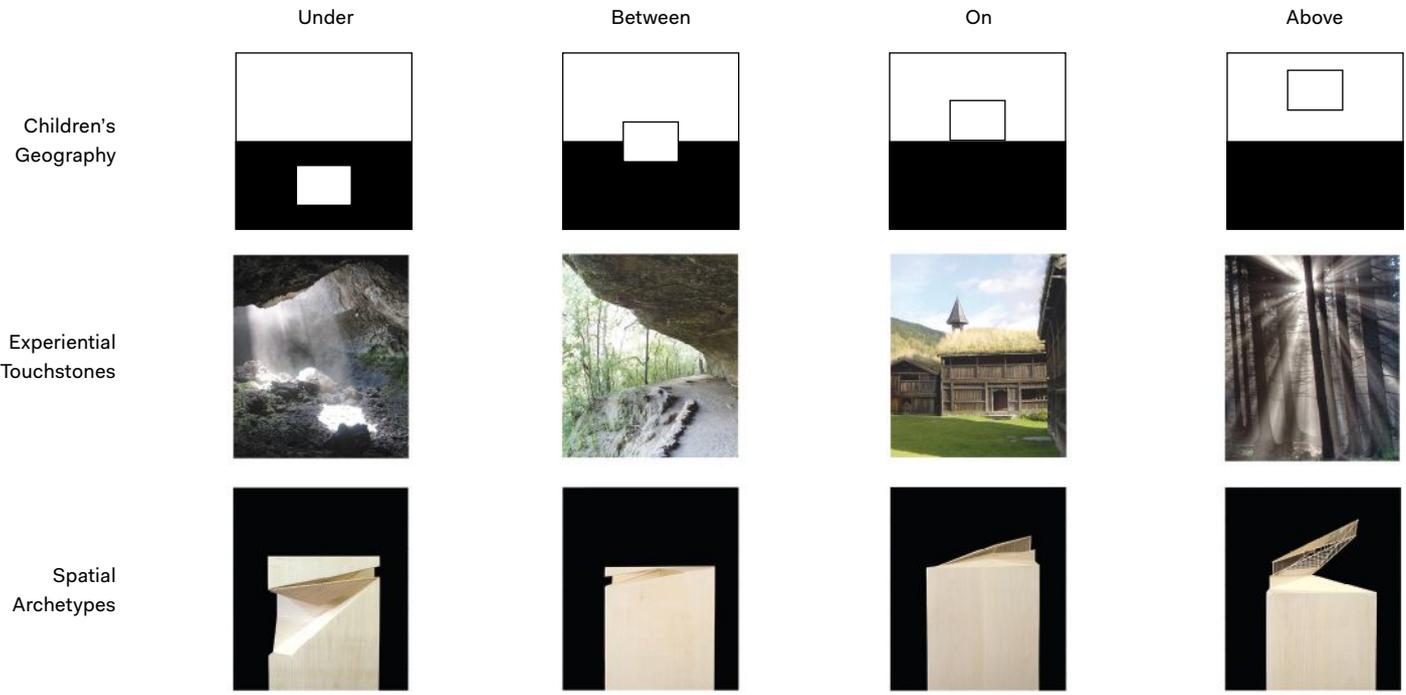


The Above Zone is part of a master plan that reimagines the children’s precinct of the Edmonton Valley Zoo. Designed by The Marc Boutin Architectural Collaborative (MBAC), based in Calgary, the \$5 million structure is the first of four phases—dubbed Under, Between, On, and Above—which describe both the various ways different species engage with the landscape and how visitors, especially children, will encounter them.

MBAC engages existing topography to create immersive spatial experiences through the air and sky to bring visitors in close contact with the animals on display by taking advantage of exterior spaces within a stand of existing pine, spruce, and Manitoba elm trees that have been part of the zoo for decades. A poetic architectural promenade climbs through the air to bring visitors in close proximity to the animals; the boardwalk-like structure loops around two open-air aviaries—inhabited by gibbons, tamarins, giant anteaters, and a variety of birds—that showcase the biodiversity of the Above realm. Open bar grating on the surface of the boardwalk filters light through the walkway to the ground below, dematerializing its surface and providing an ethereal experience that makes the visitor feel like they are climbing through the sky. The promenade connects to the main level of the Above Zone’s modest 303-square-meter (3,260-square-foot) building, which has faceted wood walls that sit on a base of board-formed concrete.

Inside, a central stair is flanked by a day room at each end of the building—one for gibbons and one for tamarins. That stair leads to a rooftop space with a net climbing structure that allows children to play at the same level as the birds in the adjacent aviary—giving them a deeper connection to the species that they are observing.

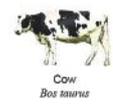
The Above Zone promises a compelling journey from ground to sky—through a child’s eyes—in order to not simply observe animals, but better meet them in their own environments. —E.K.



Core Species



Supporting Species



Project Credits

Project: Edmonton Valley Zoo Children's Precinct – The Above Zone, Edmonton, Alberta, Canada  
 Client: The City of Edmonton  
 Architect/Interior Designer: The Marc Boutin Architectural Collaborative (MBAC), Calgary, Alberta, Canada · Marc Boutin (principal); Tony Leong (associate); Richard Cotter, Nathaniel Wagenaar (architects); Fatima Rehman, Trevor Steckly (intern architect)

Structural Engineer: Read Jones Christoffersen  
 MEP/Civil Engineer/Lighting Designer: Williams Engineering Canada  
 Geotechnical Engineer: CT & Associates Engineering  
 Landscape Architect: Earthscape  
 Exhibit Designer: LEAP Designworks  
 Size: 3,260 square feet  
 Cost: Withheld

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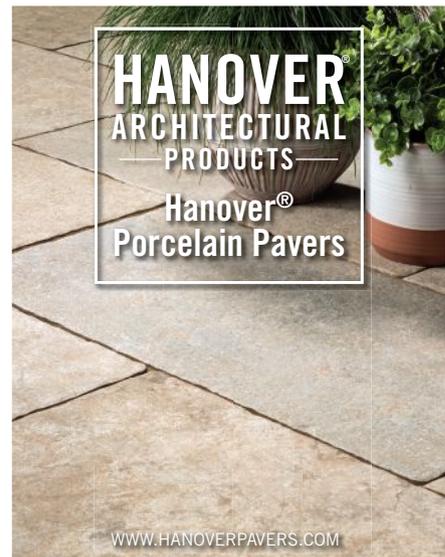
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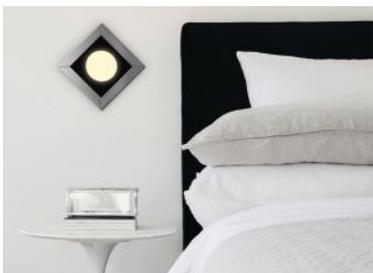
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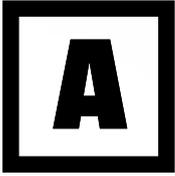
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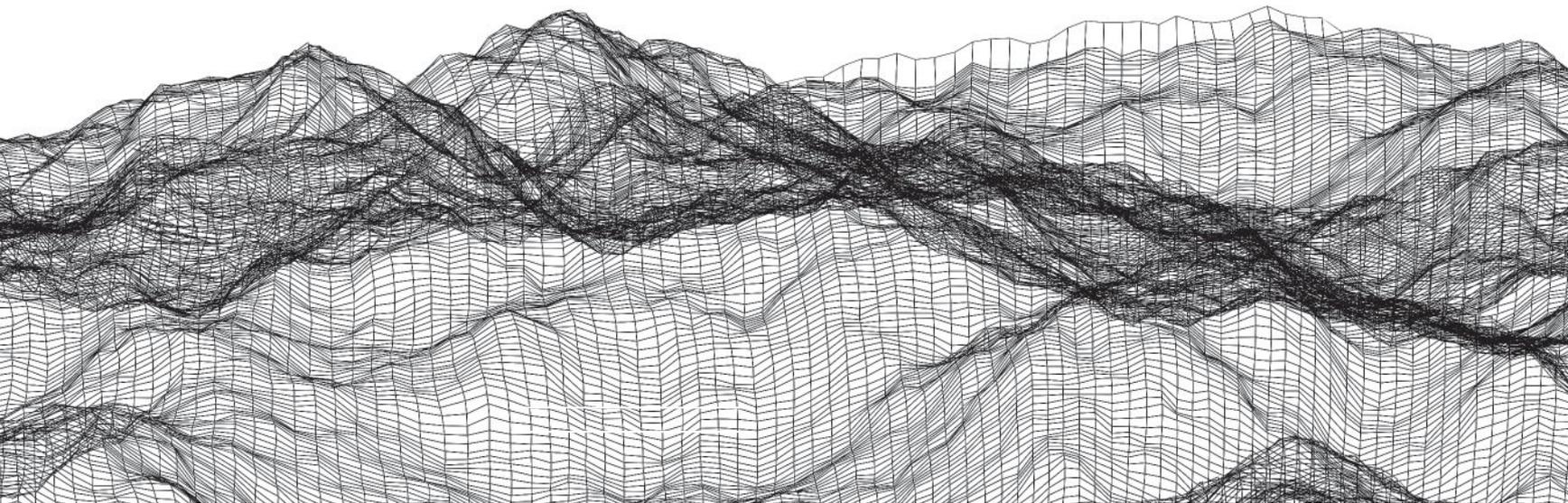


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# Editorial: The Return of Redlining

There's a battle underway in Washington, D.C., and its outcome will have a profound affect on the profession and the built environment in the United States. I'm not talking about the misguided effort to mandate a single style for federal buildings or the dangerous political resistance to action on climate change—important as those fights are. I'm referring to another struggle, perhaps less mediagenic, over regulatory enforcement of the Community Reinvestment Act (CRA) of 1977.

Sound like a wonkastic snoozefest? Maybe so, but hundreds of billions in essential private development dollars may be at stake. The CRA was enacted to counteract redlining, a pernicious, decades-long practice whereby the federal government and the financial sector collaborated to deny loans in poor, largely black neighborhoods; it effectively requires banks to finance affordable housing, small businesses, and other beneficial initiatives that they once spurned.

The CRA is more than four decades old, so a review of the regulations is appropriate. Unfortunately, the proposal from the Office of the Comptroller of the Currency (OCC) and the Federal Deposit Insurance Corporation (FDIC), two of the three governmental bodies with oversight authority, would undermine protections against redlining, creating loopholes for banks to once again shut the door on communities they deem undesirable. The third body, the Federal Reserve Board, opposes the OCC and FDIC plan.

The OCC and FDIC have a precedent of sorts. The Supreme Court's 2013 ruling in *Shelby County v. Holder* overturned provisions of the Voting Rights Act of 1965 because, according to the majority opinion, "the conditions that originally justified these measures no longer characterize voting in the covered jurisdictions." The majority's faith in human progress was misplaced. In the seven years since the ruling, some 23 states have limited minority access to the polls.

I fear a comparable outcome if CRA obligations are weakened. Even under the current regulations,

people of color find it much harder to obtain credit for themselves and their businesses than whites do, according to The Center for Investigative Reporting. The watchdog group also says that the discrimination is bipartisan: While the Trump administration is overtly pushing to weaken CRA regulations, the Obama administration quietly failed to enforce them.

The American promise of equal opportunity is under siege. Forty-odd years of deregulation and regulatory capture, tax avoidance and evasion, corporate welfare, monopolization, mass incarceration, deunionization, and disinformation have led to unconscionable gaps in wealth, income, and political agency between the powerful and everyone else.

There's no good reason for it. There's certainly no lack of cash. According to Brookings, if total 2018 household wealth in the U.S. were divided evenly, we'd each be worth \$343,000. Instead, so much money is floating around up top that big businesses and rich folk don't know what to do with it. Hence financial bubbles like WeWork. Instead of chasing unicorns, we should get serious and invest in the future, through infrastructure development, accessible education and health care, support for small businesses and vulnerable individuals, and, above all, the mitigation of climate change. Such are the design problems of our time.



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