

Residential Construction

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Denser and Kinder

In the midst of the ongoing housing crisis, these case studies and products offer ways to live together, both inside and outside.

The U.S. housing crisis has reached a critical stage, with an estimated national deficit of 3.8 million homes at the end of 2020, according to one report. The shortfall is in large part responsible for a more than 30 percent increase in the cost of buying a home since 2020. The deficit also exacerbates a homelessness crisis, as more than half a million Americans are unhoused, and the number grows every year.

The reasons we've gotten here primarily relate to policy, not design. In cities across the country, zoning regulations and restrictive covenants tend to favor single-family homes in residential districts, thus limiting the number of units that can be built in a given area. The most obvious case in point is California, where, according to reporting in *The New York Times*, Los Angeles County reserves 76 percent of its residential area for single-family homes, while the Bay Area allocates 85 percent.

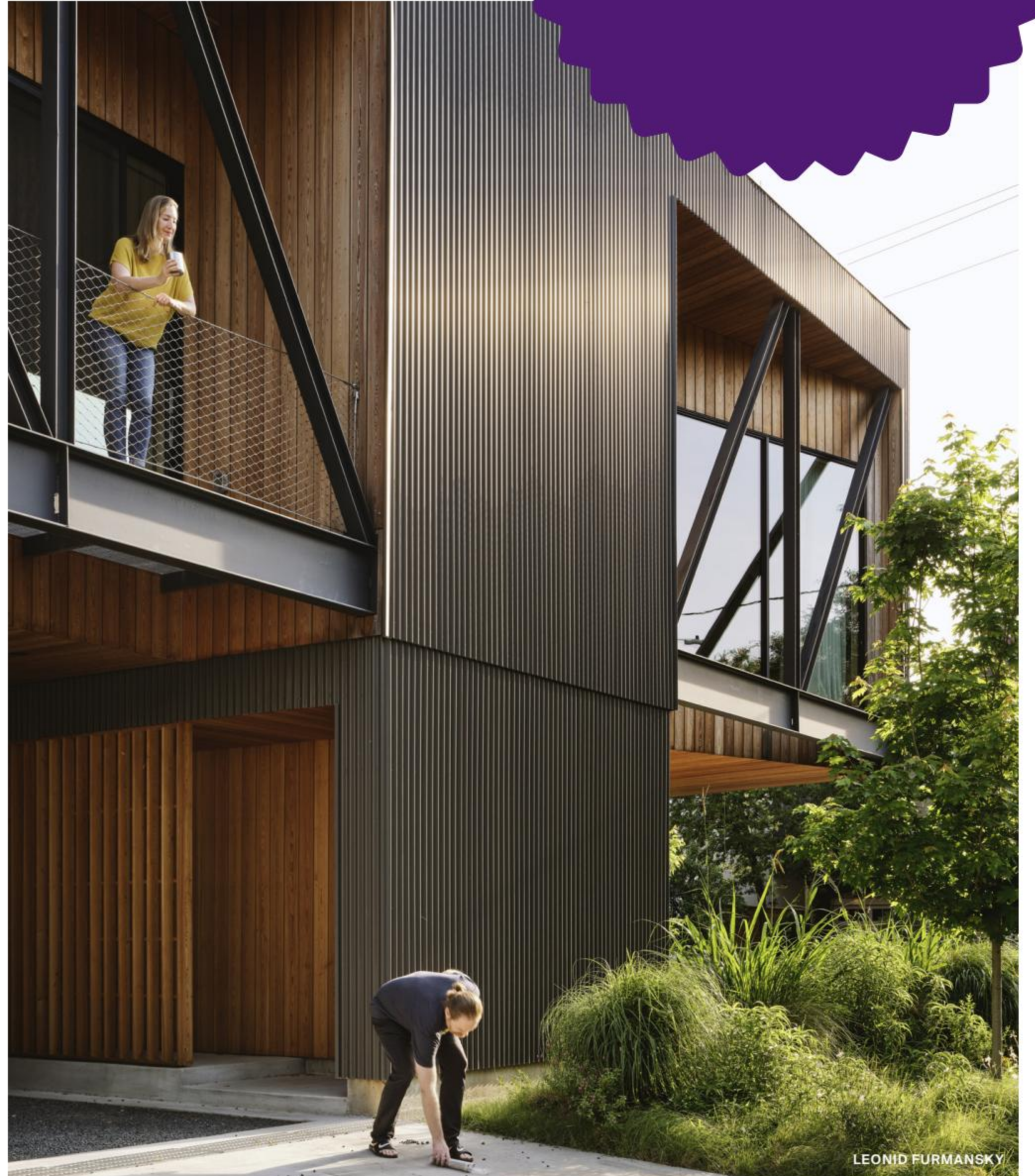
Increasing urban residential density is clearly a necessity, and it must be done without going back to the Dickensian overcrowding of industrial-era cities or a turn to dystopian people-warehousing solutions like the dormitory proposed by Charlie Munger.

In this Focus section on residential construction, we consider three case studies that

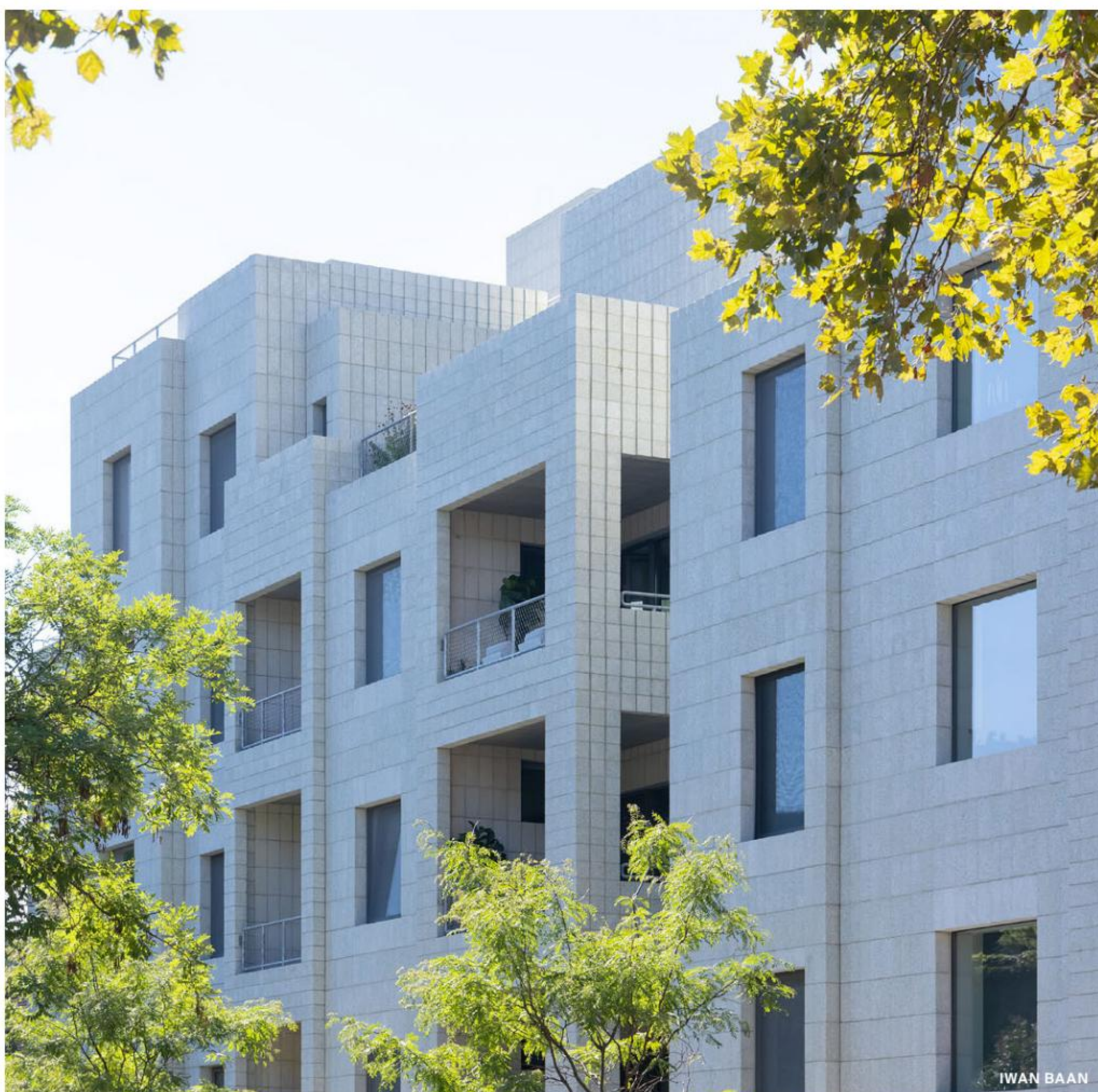
work with density at different scales while optimizing interior daylighting and providing outdoor communal spaces that put residents in touch with nature and their neighbors.

XO House in Houston by LOJO explores the courtyard typology to fit a primary residence, a work-from-home space, and an accessory dwelling unit (ADU) on what is nominally a single-family lot (the site originally contained two small bungalows built for the daughters of the farmer who once owned the land). In Brooklyn's Boerum Hill neighborhood, SO - IL's 450 Warren pulls apart the typical urban condominium block, creating outdoor circulation that doubles as social space. In doing so, it avoids the use of a double-loaded corridor. And the Keeler Court Apartments in San Diego by BNIM Architects are an affordable-housing project that consists of 2 four-story buildings connected by outdoor bridges on a site that also features a community garden, children's playground, and BBQ and picnic area.

Each of these case studies offers prompts to policymakers about how they might update their zoning codes to accommodate greater density while providing safe, humane, and attractive housing for more people.



LEONID FURMANSKY



IWAN BAAN



CHIPPER HATTER

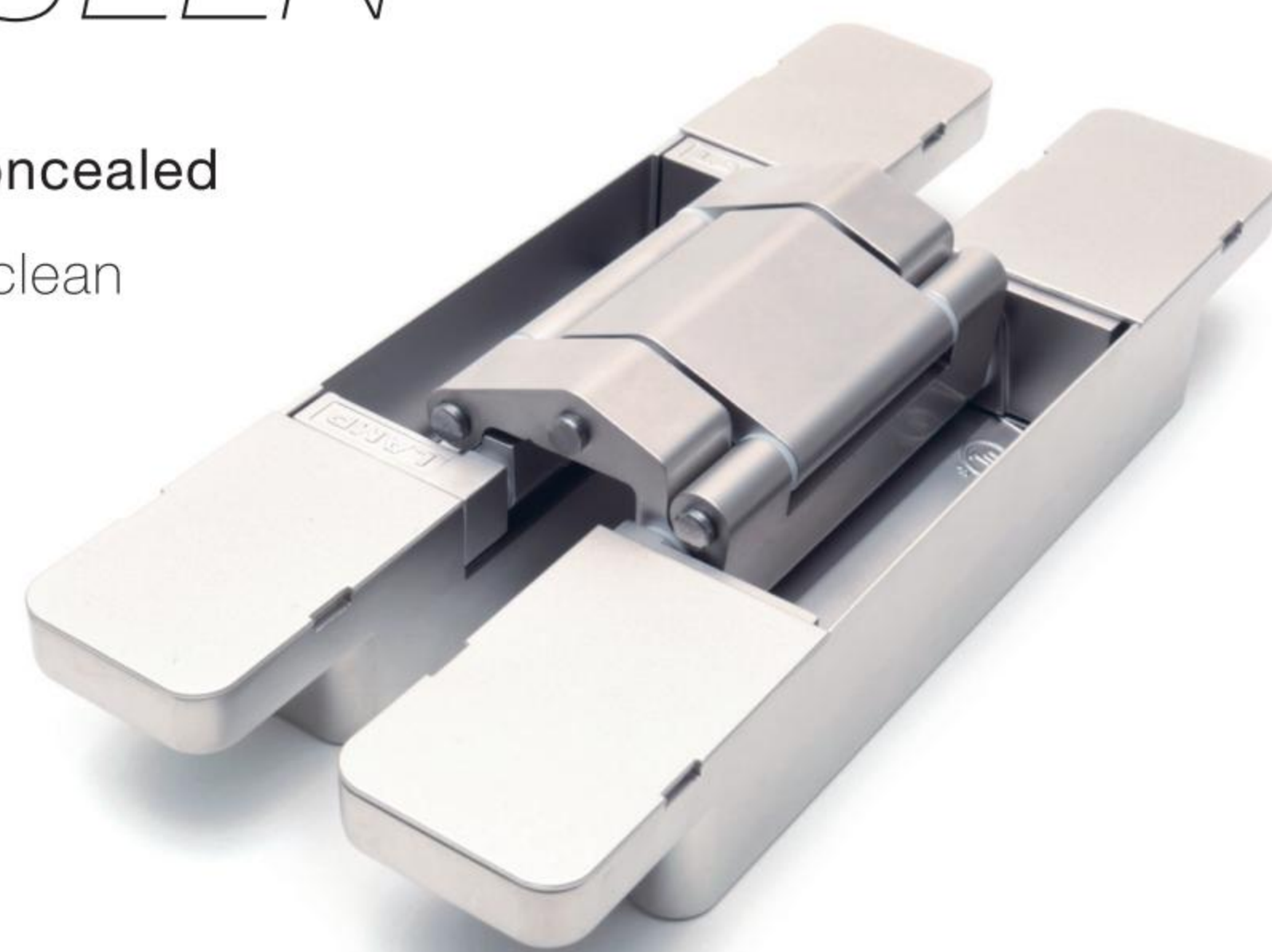


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32 Case Study

A'N FOCUS

January/February 2023

Nine Square

XO House by LOJO is a contemporary take on the Roman domus.



LEONID FURMANSKY

Architect: LOJO
Location: Houston

Structural engineer: Insight Structures
Civil engineer: Karen Rose Engineering
General contractor: Viviano + Viviano
Landscape architect: Falon Land Studio
Landscape installation: Telloc Landscape & Construction
Sliding gate fabricator: Aria Signs & Design
Concrete floors: Dungan Miller Design

In this case, XO doesn't stand for hugs and kisses. Rather, XO House—which Jason Logan and Matt Johnson of LOJO in Houston designed for Logan, his wife, and his wife's father, who had dementia—references the house's two plans: The ground floor is an X, the upstairs an O.

"Matt and I like to work with typologies," Logan said. "The last house we designed for me and my wife was a dogtrot. Here on this site, the typology we had in mind was the courtyard of the Roman domus, specifically the compluvium."

Situated on a tight corner lot in a sliver of Houston between the Woodland Heights Historic District and the Near Northside, XO House responds to its context while setting a new precedent. The two-story structure's corners are carved away at the ground floor, opening space for two carports, a pedestrian entrance to the courtyard secured by a perforated steel gate (the perforations are a gradient of Xs and Os), and a small back patio. The enclosed spaces on the ground level include the in-law apartment (a generous one-bedroom setup), an office with full-height windows overlooking the courtyard, and the entryway to the main living space upstairs.

The main living space features a kitchen, a living/dining room, a primary bedroom with an en suite bathroom, a guest room, a powder room, and a utilities closet, all wrapped around the courtyard and cantilevered over the vacated corners below. The interior is spare, and the materials are kept to a minimum: just drywall, white oak floors, and yards and yards of white oak millwork cabinetry and shelving. To obviate the need for drawer pulls, Logan drew a curving

millwork detail for the opening and closing of the cabinetry. Logan, who professes to not like doors, kept the bedroom and adjoining bathroom almost entirely free of them. Instead, the spaces flow one into another. The exceptions are the utilities closet and powder room, and, more choicely, the guest room, which can be enclosed by a secret door that swings 180 degrees from its concealment in the hallway's millwork to shut off this space should it be occupied by a visitor.

Throughout the home, windows are carefully placed to frame specific views. By carving away at the volume, the architects opened a corner window in the bedroom, which is on the north of the site, looking south across the side of the house toward downtown. A window on the floor of the living room allows easy views into the courtyard below. A full-height window in the kitchen looks across the gabled rooftops of the neighboring bungalows to the west. Glass walls on the south face are pulled back from the perimeter, shading the glass, opening space for an exterior balcony and freeing the architect from the task of detailing

a window around the cross bracing of the steel cantilever (the structure is a hybrid of steel and wood framing).

Located near White Oak Bayou in the 500-year floodplain (though the site did not flood during Hurricane Harvey), XO House takes water seriously. The compluvium of the roof is functional, though rather than directing water into an impluvium it feeds large gutters and downspouts that lead to a 2,500-gallon underground cistern to keep stormwater on-site. The foundation is also raised two feet above grade as an anti-flooding measure. Additional sustainability measures include seven 300-foot geothermal wells that offset heating and cooling loads, and the roof has room for a 28-panel solar array that, when set up, could take the house completely off the grid.

Clad in dark gray corrugated metal panels and larch boards that accentuate the project's carved volumetric qualities, the house is at once assertively modern while not trying to stand out too much in this neighborhood of early 20th-century bungalows. **AS**



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COURTESY LOJO

Facing page: Sited on a corner lot, XO House is a variation on the courtyard house typology and accommodates a main residence, office, and ADU. Clad in dark gray corrugated metal panels and larch boards, its upper story cantilevers over two carports and the main entrance, which opens into the courtyard.

Left, top: The courtyard is the physical and spiritual center of the house, where the ADU, office, and main residence share an outdoor social space.

Left, bottom: The interior is ripe with yard and yards of white oak millwork, here defining the stair to the main residence upstairs.

Above, top: The living/dining area features a glass wall pulled back from the southern elevation to create shade and put the steel structure of the cantilever on display.

Above, bottom: The two floor plans clarify the house's name: downstairs is the X, upstairs the O.

34 Products

A'N FOCUS

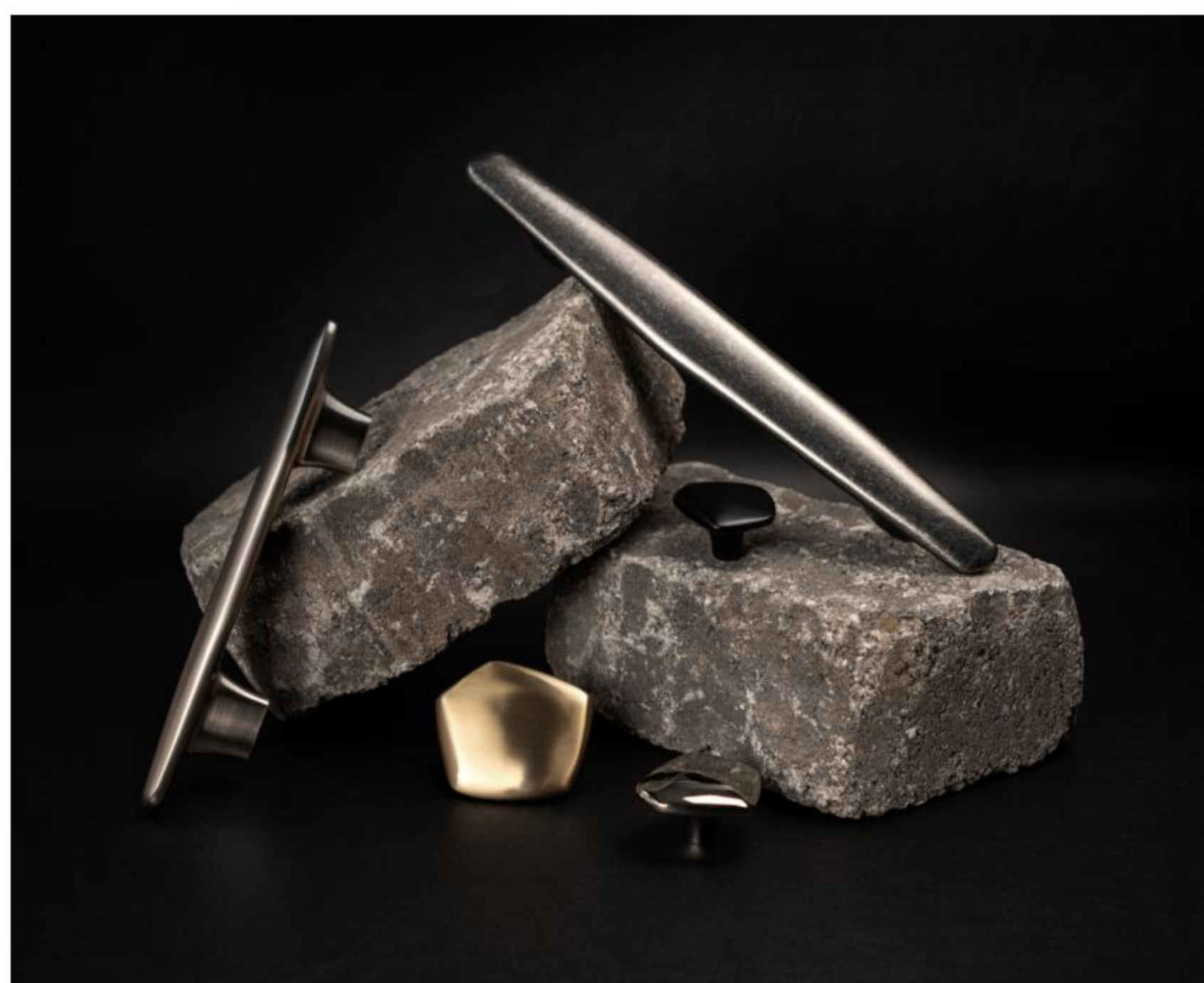
January/February 2023

Hardware

In the realm of home renovation, hardware is a small but mighty force. With the power to completely transform a space, updating your hardware might be one of the most substantial yet cost-effective changes you can make. To help you do so, the following manufacturers have rolled out a number of new collections that promise to deliver on aesthetics and durability. *Sophie Aliece Hollis*



Tubular Latch
Accurate Lock
accuratelockandhardware.com



Pebble Collection
Belwith Keeler
belwith-keeler.com



Riviera Cabinet Collection
Emtek
emtek.com



Cast
Buster + Punch
busterandpunch.com



Otto Collection by Float Studio
Modern Matter
Modern-matter.com

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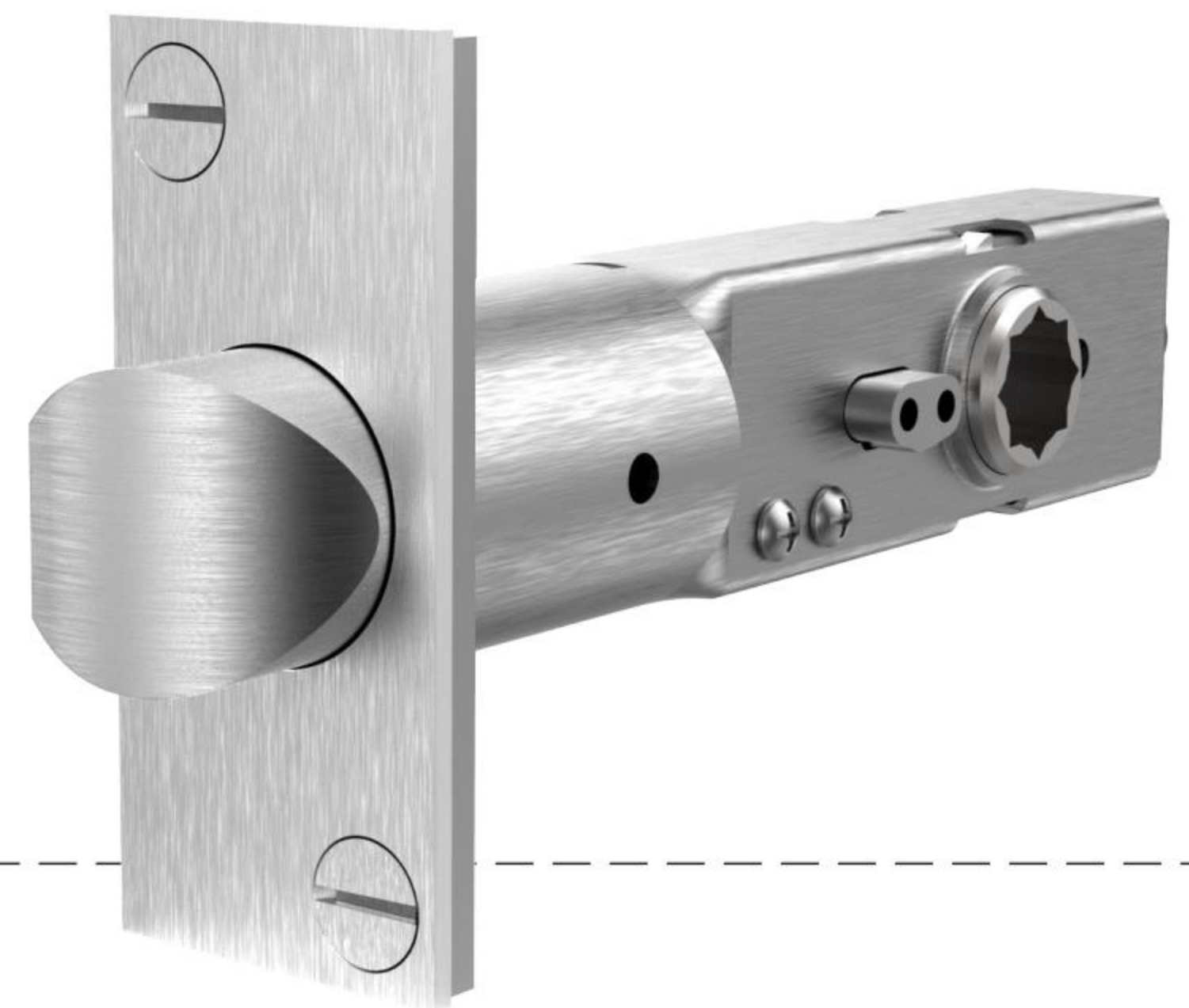
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Block Party

SO – IL innovates condo living through inventive massing, circulation, and details.



Architect: SO – IL
Location: Brooklyn, New York

Architect of record: Kane AUD
Developer: Tankhouse
Structural engineer: Silman
MEP engineer: ABS Engineering
Facade consultant: Laufs Engineering Design
Lighting designer: Lighting Workshop

It rains inside 450 Warren, a new 18-unit condominium in Brooklyn's Boerum Hill neighborhood. It snows too, though not much so far this winter.

Judging from appearances, this climatic permissiveness can come as a little surprising. The five-story development, though puny compared with the vertiginous public-housing complex across Bond Street, affects a low-key defensive posture, not unlike the priggish row-houses lining the rest of Warren Street. SO – IL's elemental, *Minecraft*-like massing is accentuated by the uniform surfacing of concrete blocks, gathered into tight vertical bands that are slightly offset and angled from one another. At a compositional level, the cubic cladding is relieved by deadpan punched windows and balconies, and at a microscopic level, the terrazzo-like green flecks mixed into the aggregate work to soften the building's image.

But step through the entry gate (placed off to the side, on Warren), and the architecture suddenly slackens. What at first seemed a dry polemic about archetypal representations of

mass is a lucid, well-executed proposition for a new kind of urban housing. Three buildings are arranged around an open-air space, with the far ends of the floor plates connected by slinking gangways. Wire-mesh drapery affixed to the sides of these thin concrete footbridges obviates the need for railings even as it hints at a certain danger.

Paradoxically stiff yet blousy, the cable netting modulates the character of the shared court, and thus of the complex as a whole. The effect can be uncanny, particularly on a summer day, when sunlight shimmers across its surface. Slicked with rain, the veil acquires a beguiling sheen. This past holiday season, residents took to pinning festive accoutrements to the mesh, from ghost dolls and spiders for Halloween to Christmas wreaths.

"At first, I worried that people were going to clutter the surface with decorations," said Sebastian Mendez, with a chuckle. Mendez is an architect and cofounder of Tankhouse, the start-up developer behind the building; he lives on the fourth floor. 450 Warren is the first of four collaborations between Tankhouse and SO – IL to be completed. Conceived as a set, the projects spurn the pro forma thinking that characterizes New York City housing. "Typically, residential developments here will have an efficiency of 80 percent," Mendez said, referring to building-efficiency ratios that balance leasable or sellable space against the overall floor area. "In this case, it's close to 50 percent."

Stacked courtyards are an anomalous condition in New York. Exceptions can be found in historically wealthy pockets of Manhattan (London Terrace Gardens in Chelsea being the pinnacle of the type) or in the early garden suburbs of Queens, where block-spanning quadrangles were reduced in height and largely denuded of the ornament lavished on their city counterparts. At a little over 50,000 square feet, 450 Warren is an abbreviated take on the idea, even as it throws in a few twists, enough to earn it a win in the Residential—Multi-unit category in *AN*'s 2022 Best of Design Awards.

For instance, every apartment faces at least two directions, with front doors positioned around the court. The architects devised foyer-like alcoves—think of mudrooms without doors—where residents shed their sodden shoes and parkas or park their groceries on built-in resin benches as they feel around for house keys. Domestic provisions such as these were possible only because Tankhouse and SO – IL dropped the sunless double-loaded corridor favored by local developers. Instead, they substituted those semi-contiguous walkways, swoopy like a sneaker logo and as suggestively uncomplicated as Matisian *découpages*. Though exposed to the weather, they are not completely unmediated: The slender slabs are embedded with electrical trace heating to melt snow, and however oblique they may seem, the passages offer the minimum coverage dictated by code.

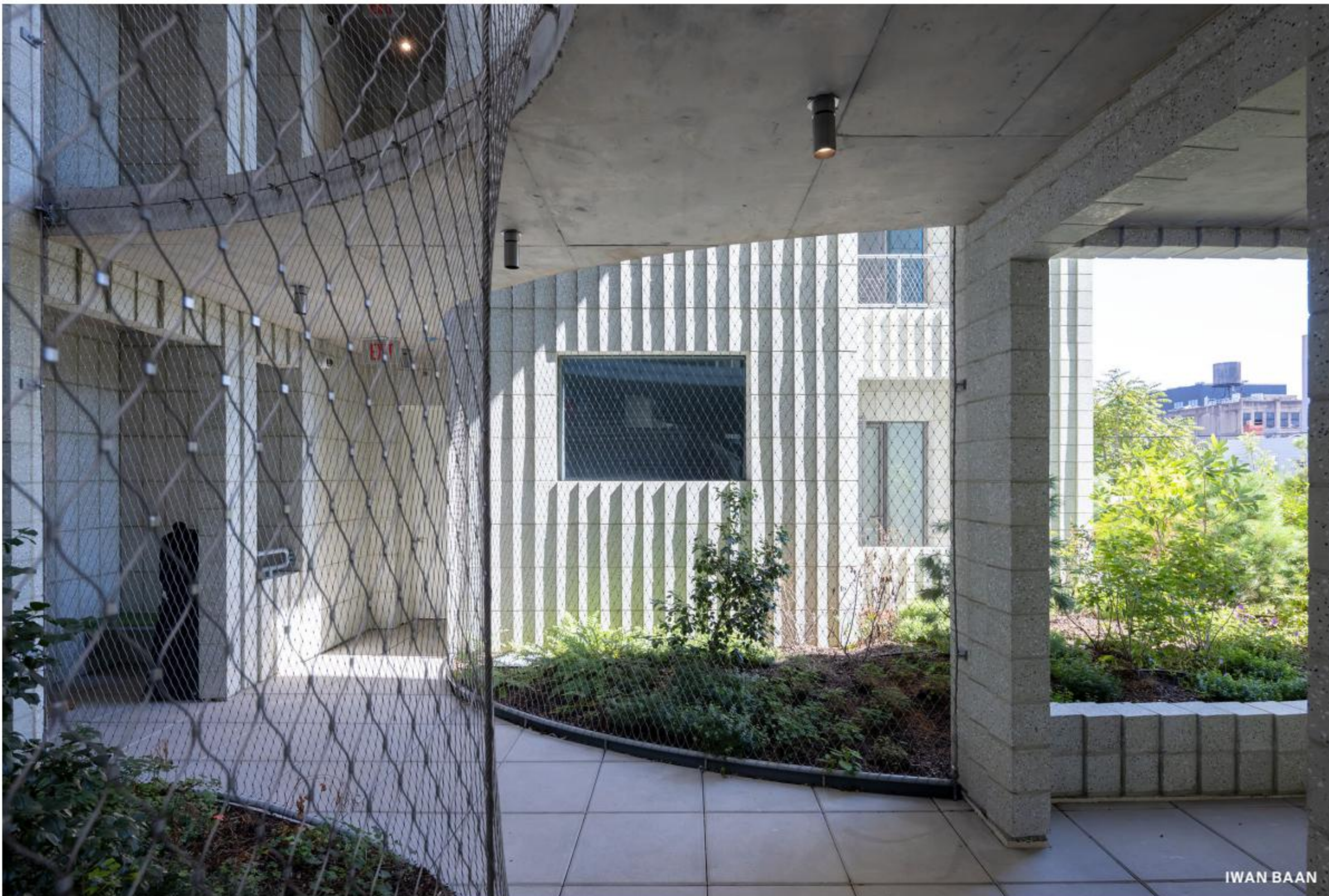
"The building inspector told us, 'I don't like it, but I have to sign off on it,'" recalled Florian Idenburg, cofounding partner of SO – IL. "That was his attitude toward the whole design."

The units have all been sold, save for the top-floor penthouses (asking price: \$2 million). SO – IL also designed the interiors of the apartments, where custom pink-marble countertops scream "luxury," while the gallery-quality baseboard reveals merely murmur it. Idenburg called attention to the provision of natural lighting in all the bathrooms, as well as skylights in hallways and bedrooms; on the building's website, the broker instead chose to foreground the number of closets in each unit, which is prodigious.

True generosity, however, is to be found outside, in the viscerally breezy central court and in the elevated garden facing Bond Street. The latter, larger than the former, is a more conventional quadrangle slotted into the gap between the buildings and a neighbor's party wall. Compelled by a zoning mandate, the architects constructed a false facade—really, a two-story surface made with chain-link fence—to enclose the space. Eventually, creepers will provide additional privacy for residents from outside eyes, if not from one another. Owners of the two units adjacent to the area show little inclination toward setting up any barriers; indeed, the manner of their decor seems to invite bidirectional glances. At 450 Warren, the theme seems to be receptivity—to precipitation as well as to each other. **SM**



IWAN BAAN



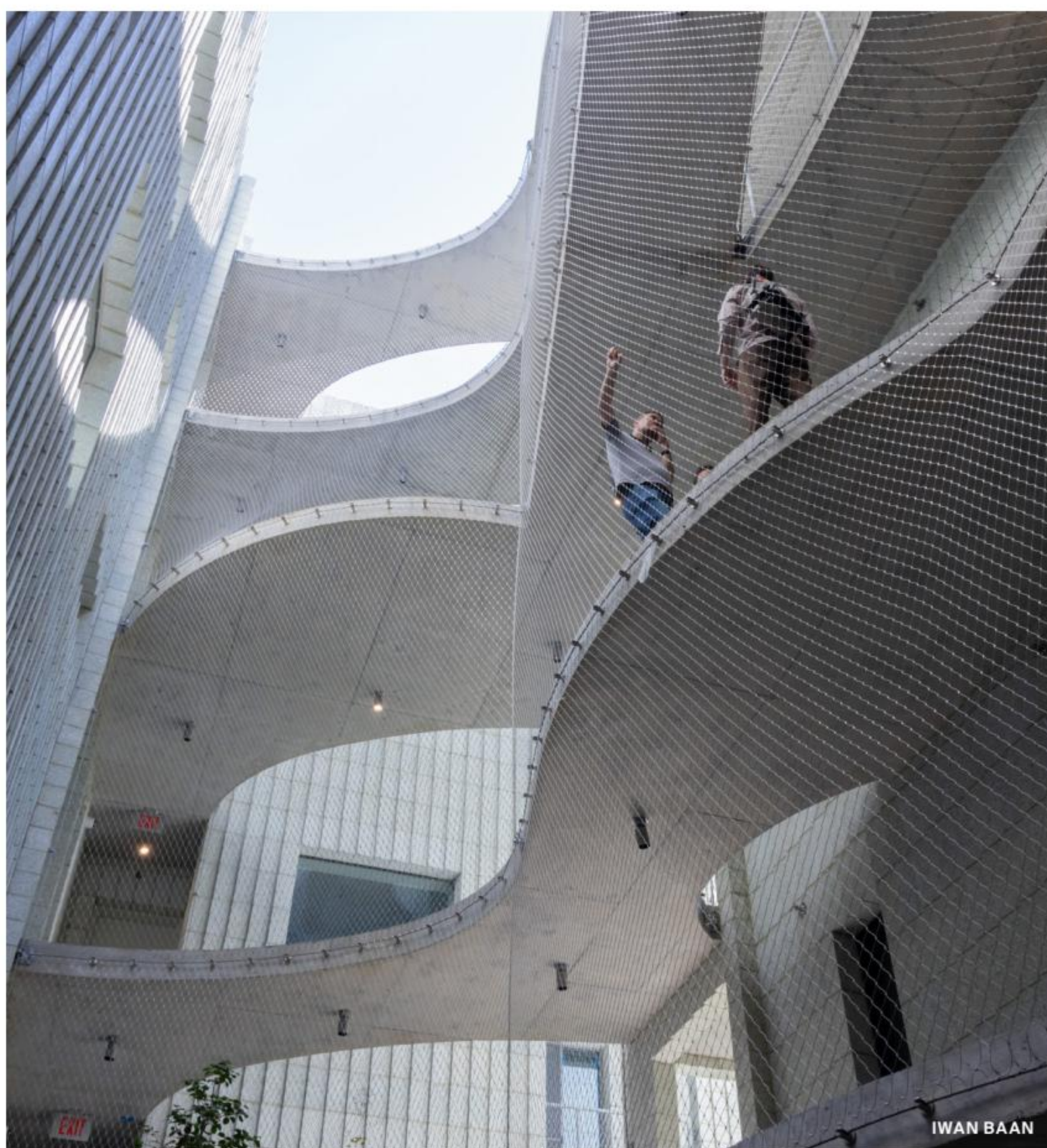
IWAN BAAN

Above, top: The angled block cladding creates variable textures and shadows as the light changes throughout the day.

Above, bottom: The cable netting both protects residents and screens off planted zones. Entries to individual units are accompanied with vestibules that sport circular, inset doormats.

Right: The curving walkways, though tight, serve as both circulation and social spaces. Lighting is incorporated into the slabs, as are heating elements to melt the snow.

Facing page: Standing five stories tall, 450 Warren scales between the existing densities of rowhouses and the taller complexes of Gowanus Houses, operated by the New York City Housing Authority.



IWAN BAAN

COURTESY SO - IL



Fifth-floor plan: The three penthouses sport private terraces. The building's three masses, fully separate on lower floors, are joined on the right (eastern) side to connect a primary bedroom suite to its unit.



Second-floor plan: The thinner, more expressive inner circulation threads between the thicker, block-faced walls. The shared elevated garden is at the bottom left.



Ground-floor plan: The street level includes four spaces, presumably for retail, and nine parking spots, in addition to the base of the interior court.

38 Products

A'N FOCUS

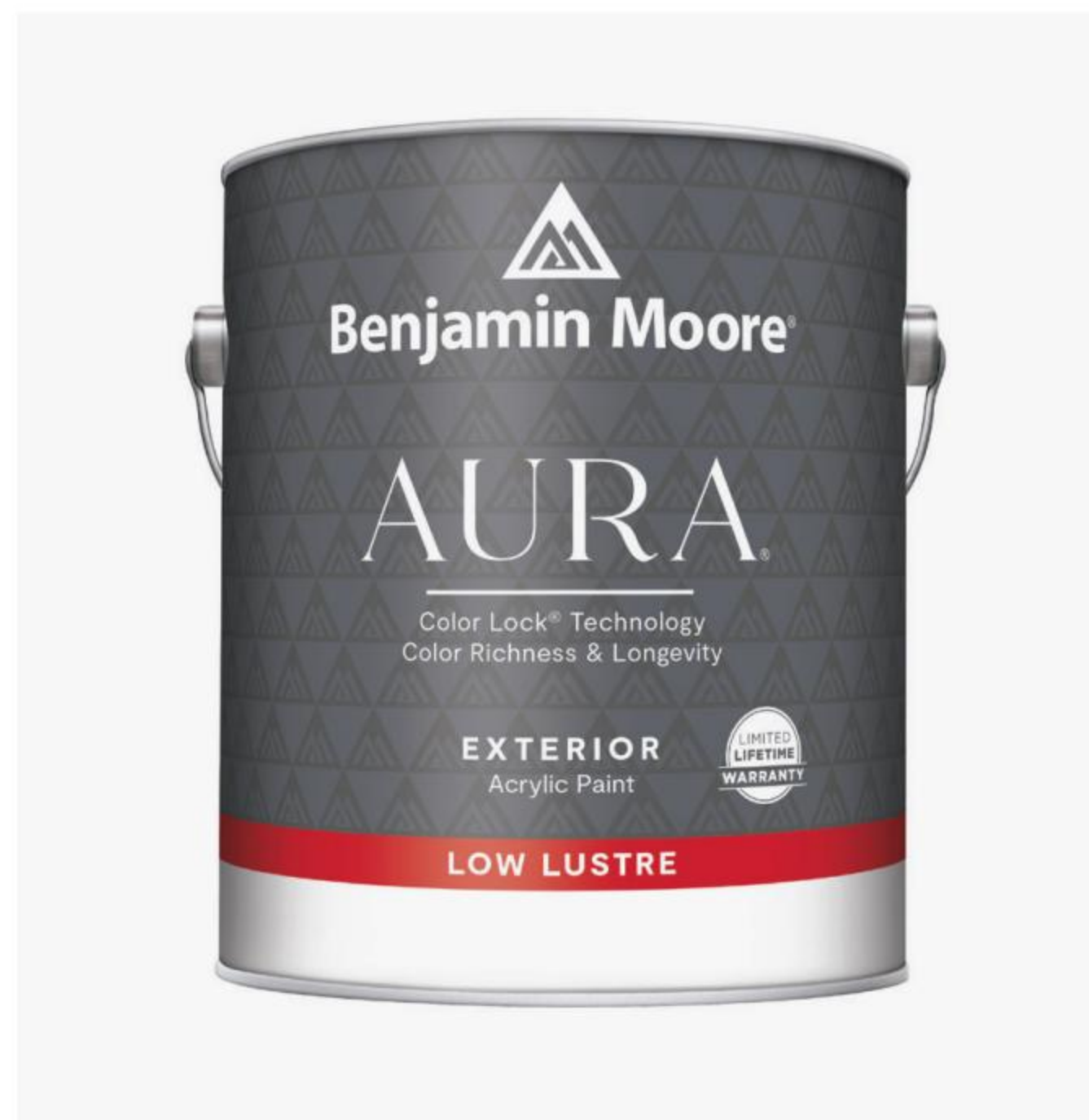
January/February 2023

Paints & Primers

Years of research and innovation have changed the paint and primer game. Going far beyond color, the following products employ cutting-edge technology to ensure that each coat is actively working to protect your home and everyone in it. Disinfecting, cooling, and air purifying are just a few of the many qualities that these paint and primer products will bring to your next job. *Sophie Aliece Hollis*



Copper Force Interior Paint
Behr
behr.com



Aura Exterior Paint
Benjamin Moore
benjaminmoore.com



KILZ RESTORATION Primer
KILZ
kilz.com



Exterior Paint
Clare
clare.com



Cool Surface Technology Floor Paint
Glidden
glidden.com

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39 Products

Weather & Air Barriers

As unpredictable weather grows more and more common, it's never a bad idea to ensure your home's envelope is sealed and secure. Whether you're looking to keep the elements out or maintain the conditions inside, the following sealant, barrier, and insulation products promise top-of-the-line performance to maximize your home's efficiency and protection. *Sophie Aliece Hollis*



DensDefy Liquid Barrier
Georgia Pacific
gp.com



WeatherLogic Seam & Flashing Sealant
LP Building Solutions
lpcorp.com



PINK Next Gen Fiberglas
Owens Corning
owenscorning.com



Comfortbatt PRO
Rockwool
rockwool.com

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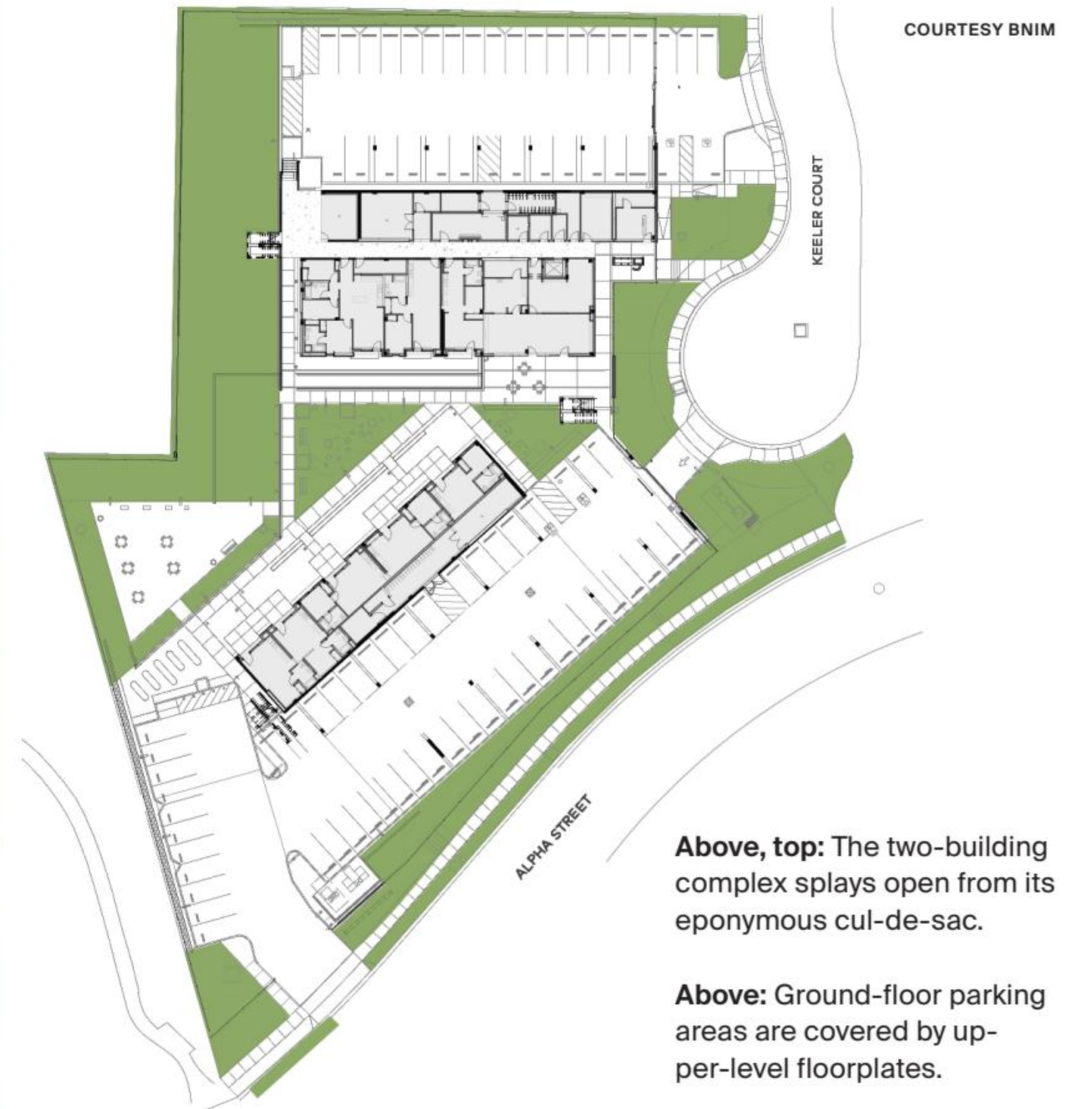
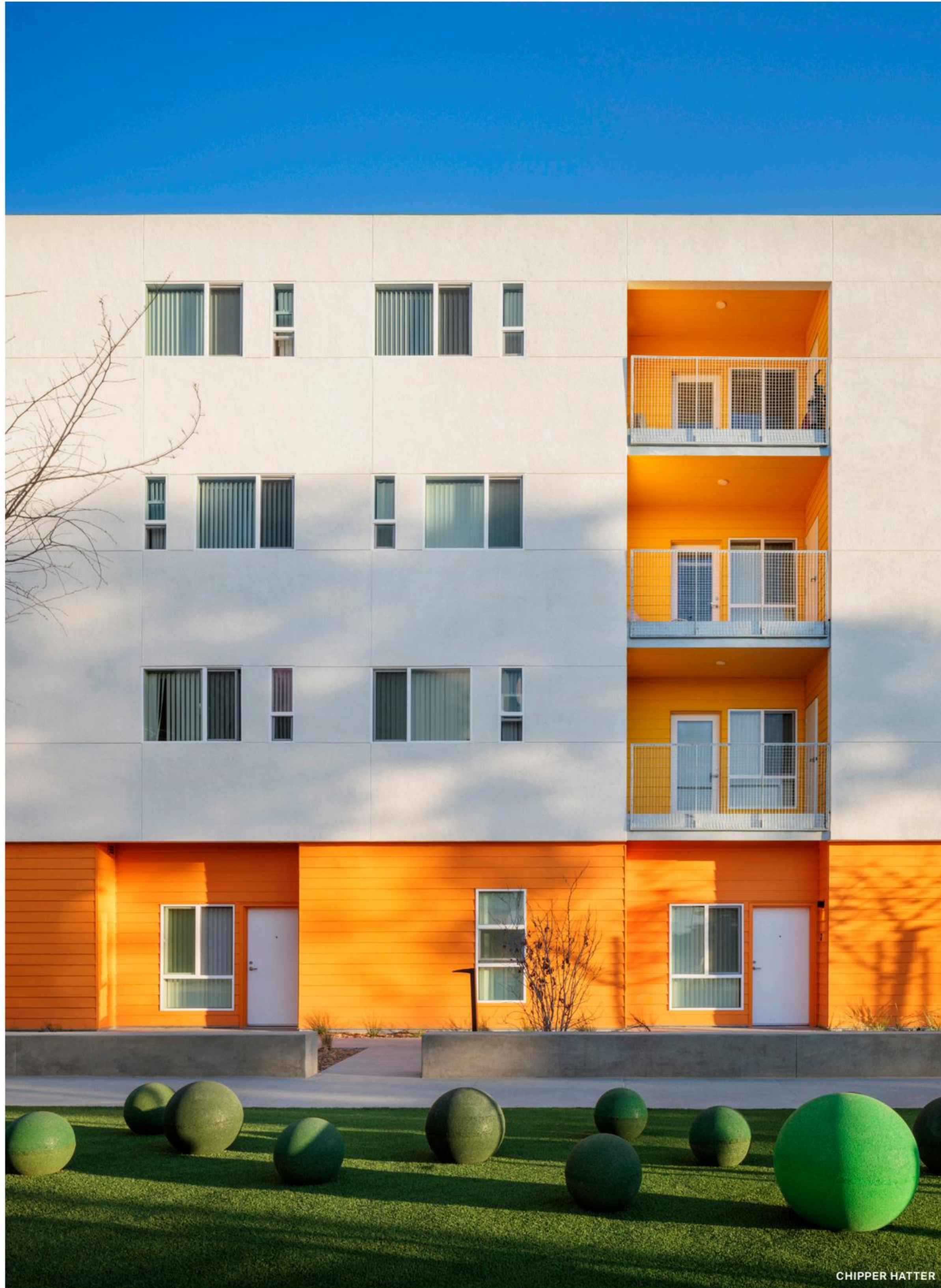
40 Case Study

A'N FOCUS

January/February 2023

Nature and Neighbors

BNIM's Keeler Court is an affordable-housing complex with an emphasis on outdoor community space.



Above, top: The two-building complex splays open from its eponymous cul-de-sac.

Above: Ground-floor parking areas are covered by upper-level floorplates.

Left: Recessed areas, finished in orange and yellow, brighten the stucco facades.

Architect: BNIM
Location: San Diego

Owner/partner: Community HousingWorks
Landscape architect: BNIM
Structural engineer: DCI Engineers
Civil engineer: Project Design Consultants
MEP engineer: Fard Engineers
General contractor: Highland Contracting Group

Rents in San Diego County have been among the fastest rising in the country, a condition that only accelerated during the pandemic, with prices rising 15.4 percent from November 2020 to November 2021, outpacing Los Angeles and Orange counties. While the rate of increase showed some signs of slowing during the fourth quarter of 2022, local governments have declared the housing shortage an issue of primary importance, with city- and county-level officials working together to propose potential pathways to construct more housing.

In one initiative, the San Diego Housing Commission provides federal rental housing assistance to 16,000 low-income households per year and has acted as a developer, investor, and lender for an additional 23,000 units of affordable housing. In November 2021, this collaborative work came to include the Keeler Court Apartments. Designed by BNIM and developed by Community HousingWorks, the 76,500-square-foot development spans two buildings and contains 71 units. The mix of studio, one-, two-, and three-bedroom apartments were built to provide housing for San Diegans whose income is between 30 and 60 percent of the area median income, or between \$39,050 and \$78,060 per year for a family of four. Seven of the units are reserved for formerly unhoused veterans in collaboration with the Department of Veterans Affairs and the Department of Housing and Urban Development.

Located on a formerly undeveloped lot in San Diego's majority-Hispanic Southcrest

neighborhood, Keeler Court is close to existing grocery stores, an elementary school, the Southcrest Park and Recreation Center, and public transit stops. The buildings' appearance is lightened by balconies cut into the blocks and finished in yellow, resulting in a ribbon of stucco on the facade. This move is set above a band of bright orange along the ground floor. The stucco is consistent with the surrounding context, but the orange, meant to introduce warmth, adds an accent color to an otherwise muted color palette.

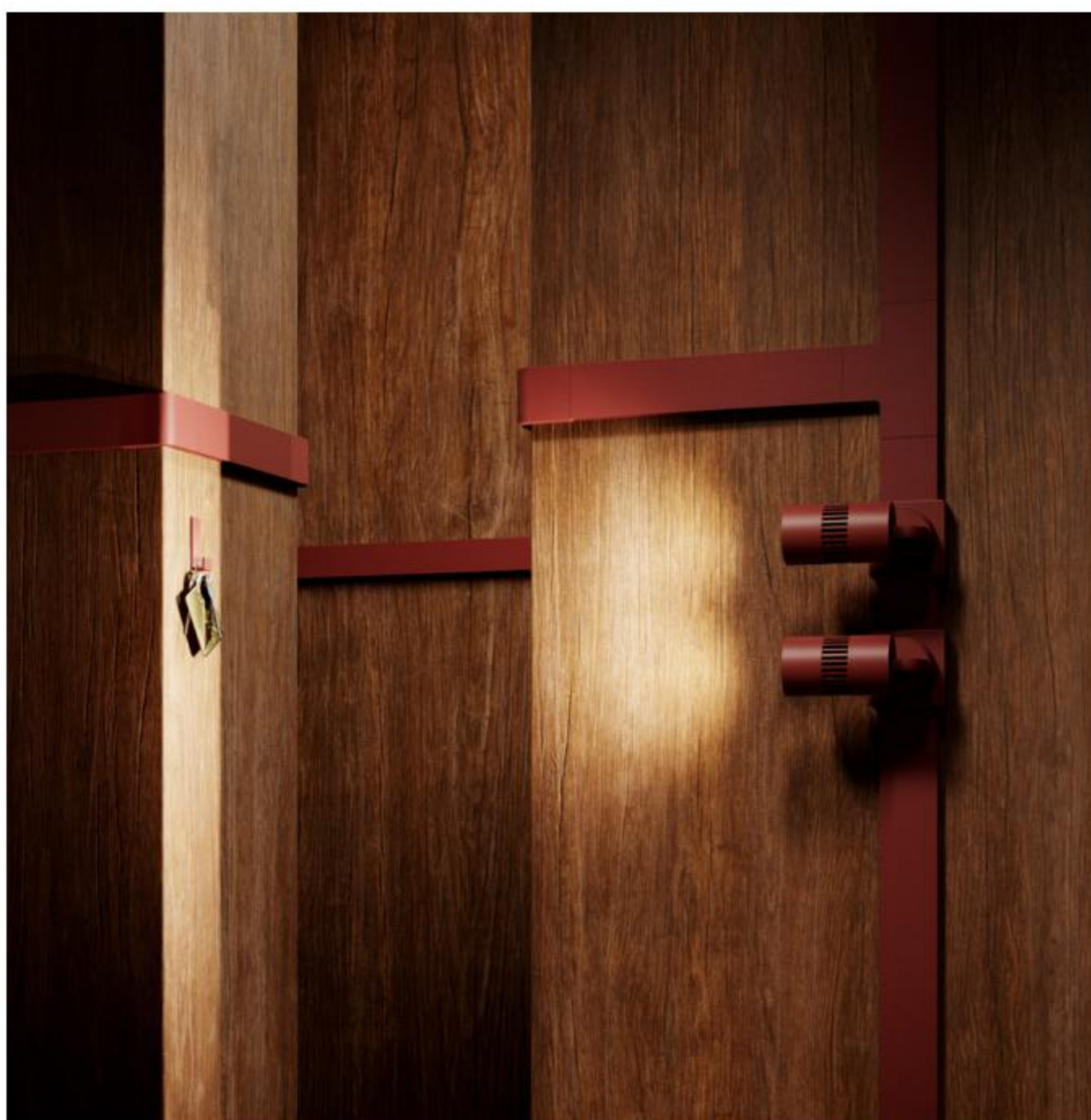
The two 4-story structures are connected by exterior pedestrian bridges, saving interior space for the units while reducing the mass of the two buildings, which are constructed with timber framing over a concrete podium. The scheme incorporates an interior courtyard, which is intended as a space for communal activity within the complex. The project also includes a children's play area, laundry room, computer room, bicycle storage room, and garden.

In addition to providing communal spaces, the design team at BNIM paid careful attention to the buildings' long-term impact on residents and the environment. They estimate that 45 percent of the site's energy will be generated through a combination of photovoltaic panels and a solar hot water system on the rooftops. The buildings' materials contain no or minimal amounts of volatile organic compounds to improve interior air quality. Roof insulation also lowers energy usage. The exterior passages, operable windows, and ample daylighting give residents the opportunity to feel more connected with nature and their neighbors.

If significant gains in housing construction are needed to ease rising costs across the country, complexes like this offer one way to add capacity in a thoughtful, budget-conscious manner. **Chris Walton**

Lighting

Versatility is the name of the game with these new residential lighting solutions. Offering both design flair and flexibility, the following pendants, sconces, and innovative track lighting systems promise to redefine illumination in your next residential project. *Sophie Aliece Hollis*



MULTIVERSE System
Juniper
juniper-design.com



Cupolina
Estiluz
estiluz.com



Carousel
Pablo Designs
pablodesigns.com



LSO Lightbar Slim
Ketra
ketra.com



Plusminus
Vibia
vibia.com

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IoT Systems

Owning and maintaining a home is no small task. Fortunately, constant innovation in the tech space has flooded the market with gadgets and systems that attempt to lighten this load. From smart switches and remotely accessible cameras to intuitive shower controls and appliances, the following IoT products promise to deliver simplicity with tasteful design. *Sophie Aliece Hollis*



Anthem Digital Shower Valves and Controls
Kohler
kohler.com



adorne Smart Switch with Netatmo
Legrand
legrand.us



LG STUDIO Styler
LG
lg.com



RadioRA 3
Lutron
lutron.com



Spotlight Cam Pro
Ring
ring.com



Video Doorbell Pro
SimpliSafe
simplisafe.com

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43 Resources

Facades

Delta Fassade
delta.dorken.com

James Hardie
jameshardie.com

Kinetica
kinetica.com.mx

Omega
omega-products.com

Schoeck
schoeck.com

Soprema
soprema.us

Sto
stocorp.com

Tremco
tremcosealants.com

Tyvek
dupont.com

Hardware

Accurate Lock
accuratelockandhardware.com

Assa Abloy
assaabloy.com

Belwith Keeler
belwith-keeler.com

Buster + Punch
busterandpunch.com

Emtek
emtek.com

Modern Matter
modern-matter.com

Schlage
schlage.com

Stanley
stanleydoorproducts.com

Von Duprin
vonduprin.com

Yale
yalehome.com

IoT Systems

Kohler
kohler.com

Legrand
legrand.us

LG
lg.com

Lutron
lutron.com

Ring
ring.com

SimpliSafe
simplisafe.com

Lighting

Artemide
artemide.com

ELCO
elcolighting.com

Estiluz
estiluz.com

FLOS
usa.flos.com

Foscarini
foscarini.com

Juniper
juniper-design.com

Ketra
ketra.com

Lucifer
luciferlighting.com

Pablo Designs
pablodesigns.com

RBW
rbw.com

Vibia
vibia.com

Paints and Primers

Behr
behr.com

Benjamin Moore
benjaminmoore.com

Clare
clare.com

Glidden
glidden.com

KILZ
kilz.com

Plumbing

Duravit
duravit.us

Hansgrohe
hansgrohe-usa.com

Infinity Drain
infinitydrain.com

Kohler
kohler.com

Watermark
watermark-designs.com

Surfaces

Daltile
daltile.com

Hanover
hanoverpavers.com

La Nova Tile
lanovatile.com

Legno Bastone
legnobastone.com

Weather & Air Barriers

Georgia Pacific
gp.com

LP Building Solutions
lpcorp.com

Owens Corning
owenscorning.com

Rockwool
rockwool.com

Windows

Arcadia
arcadiacustom.com

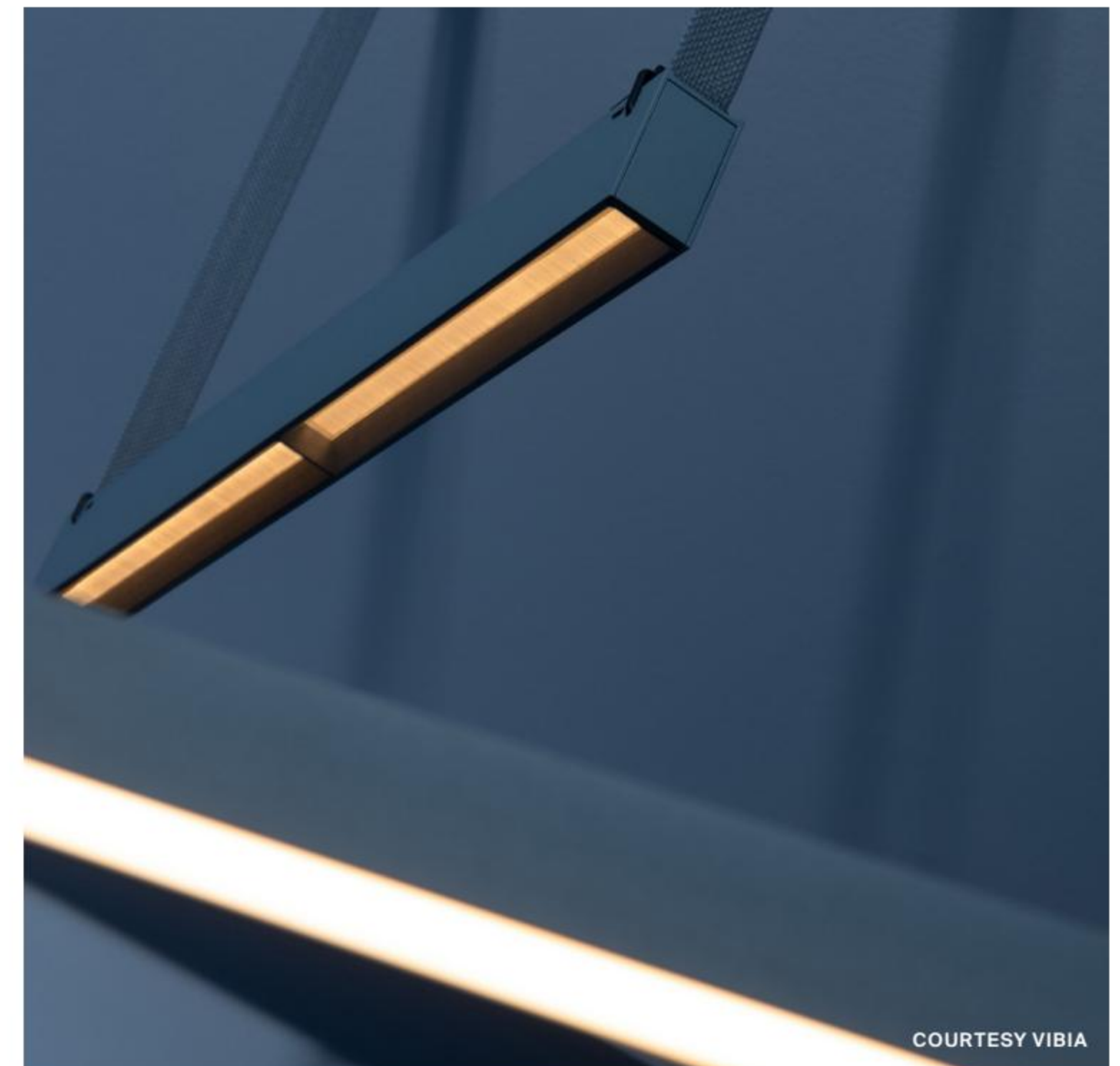
Kawneer
kawneer.com

Milgard
milgard.com

RAM
ramwindows.com

Reynears
reynears.com

Western Window Systems
westernwindowssystems.com



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COURTESY KETRA



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