

# SNAP

ARCHITECTURAL NEWS + PRODUCTS

VOLUME 11, ISSUE 1



## WHAT'S ON TAP FOR 2019

**VOLA'S HV1  
FAUCET BY ARNE  
JACOBSEN**  
PAGE 10



JANUARY/FEBRUARY 2019 READ THE DIGITAL EDITION OF SNAP AT ARCHITECTURALRECORD.COM

### A SOUTHEASTERN SLOWDOWN

Manufacturers in Georgia, Virginia, and the Carolinas report cautious optimism  
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### HOT STUFF

Playful new offerings for Kitchen & Bath  
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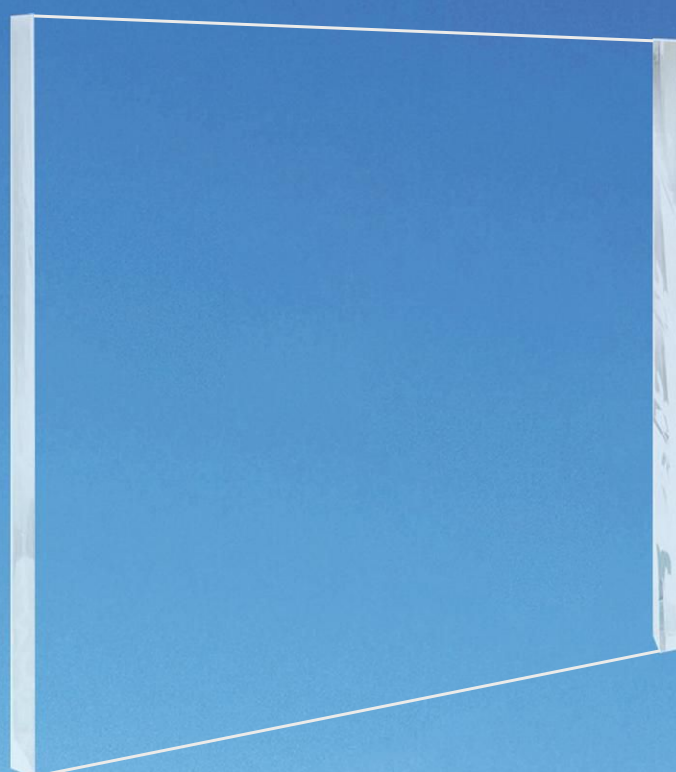






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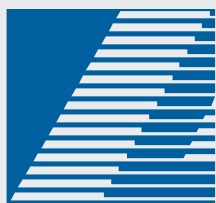


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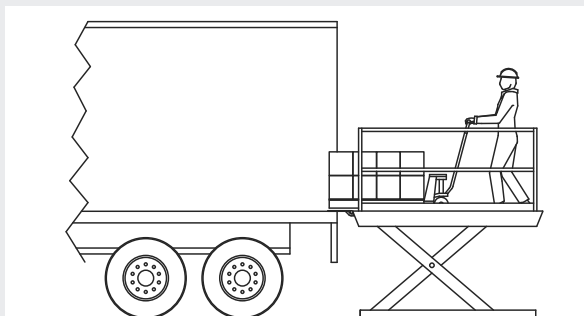
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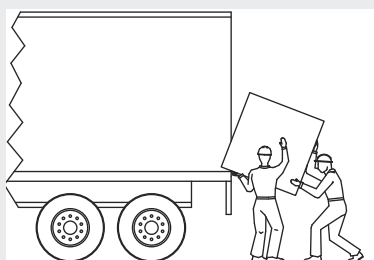


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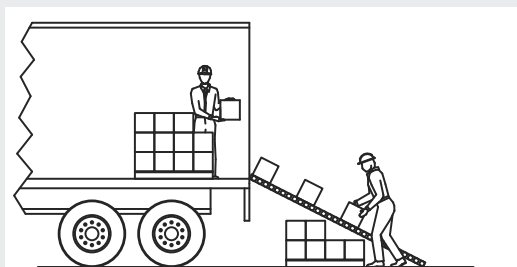
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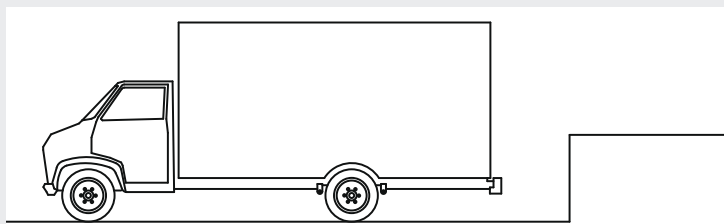


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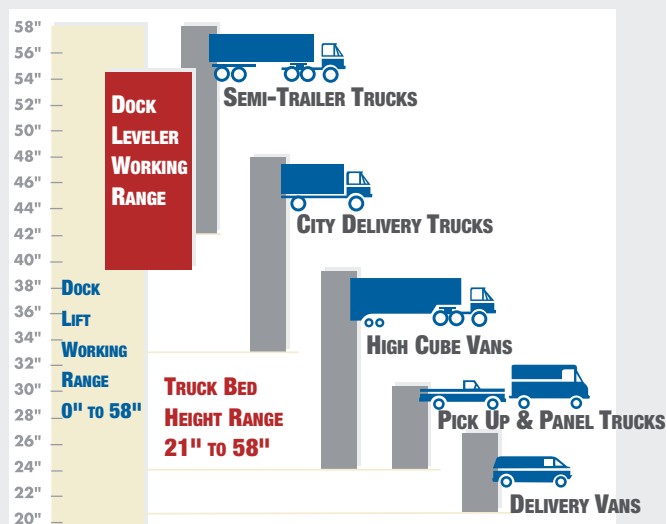
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JANUARY/FEBRUARY 2019



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## Just the Specs



**SAFE BUILDING MATERIALS** matter now more than ever. Just look around at all the green certifications manufacturers are vying for.

For architects and designers, this is not a new concern. But our recent interviews with pioneers in the search for greener and safer specs revealed that there is still lots of room for improvement.

**Perkins+Will's** Suzanne Drake and Mary Dickinson, for example, are two of three co-directors who

lead the firm's Material Performance Lab and help update its 11-year-old Precautionary List of harmful substances that specifiers should avoid. They told **SNAP** that labels alone can't always accurately represent a product's safety. Turn to page 12 for more of their insights and advice.

A thoroughness in vetting products is critical in residential design especially, where clients must live with an architect's material and design choices every day. Just ask tenants of a project in Charleston, South Carolina (page 14) designed by **David Baker Architects** (DBA). In support of the local tradition of socializing on the porch in an area that frequently floods, DBA created extra-wide, elevated terraces to serve as communal porch fronts.

Elsewhere, personal comfort is simply tied to privacy for an owner. A case in point is the owner of an Atherton, California, residence on page 18. Here, architect **Craig Steely** resolved a cluttered view of neighbors' incongruous house styles by erecting a 14-foot cedar wall.

Of course, some design issues can still be resolved by the right finish, color, or style, so you'll find the usual collection of innovative offerings in the special kitchen-and-bath focused products roundup on page 10 and in our product specs sections for lighting, hardware, flooring, roofing+siding, and doors+windows. We'll point you toward options for everything including the kitchen sink.

*Kelly L. Beamon*

**KELLY L. BEAMON** Editor

# SNAP

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# *in brief*



## 100 Years of Bauhaus

**BAUHAUS, THE GERMAN DESIGN SCHOOL** that influenced the broader Modern Movement, was founded 100 years ago this year. To mark the occasion, the German tourism board has kicked off the **Bauhaus Centenary 2019**, starting with a festival in Berlin, and extending to a “Grand Tour of Modernism” that includes relevant sites in Weimar and Dessau.

Thanks largely to architect **Walter Gropius** (who founded the school in Weimar in 1919 and designed its second location in Dessau in 1925, before he arrived at Harvard University), Bauhaus teachings and culture revolutionized design education and practice throughout the U.S. and Europe. Celebratory exhibitions have also occurred at the Tate Modern in London, Museum Boijmans Van Beuningen in Rotterdam, SESC Pompéia in São Paulo, the Garage in Moscow, and at Harvard in Cambridge, Massachusetts.

### **KEEPING IT 100**

The second home of the Bauhaus in Dessau, Germany, designed by Walter Gropius, the school's founder.



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# in brief NEWS



## A Reading Rainbow

This arch-shaped one-room library has become an inviting retreat on the mezzanine level of Concourse House: Home for Women and Children, a Bronx homeless shelter. **Michael K. Chen Architecture (MKCA)** came up with the thoughtful design to add ready access to books for children staying at the facility, who do not have books of their own.

Under the vaulted ceiling, MKCA built lozenge-shaped shelving to screen off a treehouse-like space and mitigated the dark wood-paneled ceiling by illuminating the shelving and a panel behind a large Corian table with LEDs to encourage lingering over books. "The space for imagination and reflection that books afford is a gift," Chen says, adding, "It's a privilege to make the library a reality for such a deserving group of children."

### A PLACE OF THEIR OWN

An unused mezzanine (left) in a Bronx homeless shelter is now a library (top) for children staying at the facility.

## The Art of the Experience

Award-winning designer **Mark Zeff** has opened the new year by entering into a partnership with BlackBook, the publisher of a culture and arts magazine by the same name, to launch a gallery called BlackBook Presents.

Located in Brooklyn's DUMBO neighborhood, BlackBook Presents will feature works by artists such as Christopher Tenant, Daido Moriyama, Diane Arbus, and Andy Warhol. In addition to functioning as a gallery, the space will host events.

The gallery will merge with the retail business of BlackBarn, the name of Zeff's four-year-old retail brand and shop. —Vittoria Elliott

### IN THE BLACK

Designer Mark Zeff (shown here with his daughters) is expanding his brand with a new gallery.



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## The latest residential fittings and fixtures skew playful

### 1. SOLAR ROOF SHINGLES

**MANUFACTURER:** Sunflare

**PERFORMANCE:** These thin-film roof shingles can generate solar power.

**PRICE RANGE:** \$-\$\$

**APPLICATIONS:** Scaled for residential applications and designed for easy installation, the polymer solar panels are waterproof and attach using patent-pending snap-on fasteners.

**SUNFLARESOLAR.COM**



### 2. DARK EDITION

**MANUFACTURER:** ABK

**PERFORMANCE:** Dark Edition is an extension of the Italian tile maker's Wide & Style line of versatile "ceramic wallpaper."

**PRICE RANGE:** \$\$

**APPLICATIONS:** The large-format porcelain slabs feature photo-realistic graphics, and are produced using the company's proprietary hot four-color process to print patterns such as Papillon (shown). Dark Edition is available in units ranging from 2' x 4' up to 5' 4" x 10' 7".

**ABK.IT**



**KEY** \$ = VALUE, \$\$ = MID-RANGE, \$\$\$ = HIGH-END





### 3. NUT C

**MANUFACTURER:** MZPA

**PERFORMANCE:** This collection of pendants and sconces from a Ukrainian manufacturer features a surprising mix of lacquered ash and aluminum.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** The six styles of pendants and wall sconces are UL-listed and hand-finished.

**MZPA.CO**

4



### 4. UNDERCOUNTER COLLECTION

**MANUFACTURER:** True Residential

**PERFORMANCE:** This manufacturer of commercial-grade refrigerators has rolled out an undercounter line of refrigerators, refrigerated drawers, wine cabinets, beverage centers, and drink dispensers in a range of colors.

**PRICE RANGE:** \$\$-\$\$\$

**APPLICATIONS:** Thirty-six available hues include such standouts as gold, copper, brass, and cobalt (shown), which help distinguish these condo- and hotel-friendly units.

**TRUE-RESIDENTIAL.COM**

### 5. NICE

**MANUFACTURER:** Fantini

**PERFORMANCE:** Measuring roughly 2 1/2" in diameter, the colorful acrylic faucet handles project a little more than one inch from walls and sink decks.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** Designed by Matteo Thun and Antonio Rodriguez, these knobs are the latest from Italian manufacturer Fantini.

**FANTINIUSA.COM**



5



6

### 6. HV1

**MANUFACTURER:** Vola

**PERFORMANCE:** Marking its 50th anniversary, Scandinavian manufacturer Vola has released a rainbow of new finishes for this bath faucet originally designed by Arne Jacobsen in 1968.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Recommended for bathrooms (and distributed in the U.S. by Hastings Tile and Bath), the one-handle model is made of brass, measures 4 1/2" tall, and comes in 25 finishes, including chrome and stainless steel.

**HASTINGSTILEBATH.COM**



# *in brief* **SNAP ASKS ARCHITECTS CAN BUILDING PRODUCTS BE SAFER?**

**DESPITE THE MANY CERTIFICATIONS** now steering us toward products that seem eco-friendly and safe, architects still need tools for vetting the most improved building materials.

Part of the challenge is understanding that a certification doesn't always mean there's no health risk; not all, for example, subject manufacturers to the same rigor or transparency requirements. And even when a disclosure label spells out what was used to make a product, every potentially harmful chemical may not be listed.

To fill in the blanks, **Perkins + Will** has been cataloging harmful substances used in building materials since 2008. Dubbed the Precautionary List, that index has evolved into a free, online database anyone can search by visiting [transparency.perkinswill.com](http://transparency.perkinswill.com).

Mary Dickinson and Suzanne Drake are two of three co-directors leading the firm's Material Performance Lab, which generates the data that fuels the index. They shared their insights with SNAP.

**YOUR FIRM'S PRECAUTIONARY LIST CONTINUES TO EVOLVE, BUT MANUFACTURERS ARE MORE TRANSPARENT THAN THEY WERE 11 YEARS AGO. MANY PROVIDE HEALTH PRODUCT DECLARATIONS. AREN'T SUCH DISCLOSURES SUFFICIENT?**

**DRAKE:** The way the ingredients are listed, exactly which part of a product contains a high-risk chemical can still be unclear. We need to know what's in each component.

**DICKINSON:** Also, it's best to take a preventative approach. That means looking for alternative products that significantly reduce exposure to health risks, not settling for materials that likely pose some risk.

**THE INDEX IS SOMETHING A LOT OF FIRMS WOULD LIKE TO EMULATE. BUT ARE THERE IMMEDIATE STEPS THEY CAN TAKE TO VET SAFER PRODUCTS?**

**DRAKE:** Yes. Focusing first on materials that cover large surface areas—such as floors and walls—is a reasonable place to start. The AIA's Healthier Materials Protocol offers several additional frameworks and case studies illustrating ways to achieve material health goals. Any specifier can try these, regardless of the firm's or the project's size.



Mary Dickinson,  
AIA, LEED BD+C

*Sustainable design leader and Material Performance Lab co-director, Perkins+Will, Dallas*



Suzanne Drake,  
LEED AP ID+C

*Research director and Material Performance Lab co-director, Perkins+Will, San Francisco*





Fields Residence, Downers Grove, IL Architect: Kuklinski+Rappe Architects Installing contractor: Complete Flashings  
General contractor: Roberts Design & Build Photography: ©Tom Harris Profile: Redi-Roof Color: Weathered Zinc



# go-to solution

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-Scott Rappe, AIA, LEED AP, Principal, Kuklinski+Rappe Architects



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## Southern Comfort



### **WILLIAMS TERRACE SENIOR HOUSING, CHARLESTON, SOUTH CAROLINA**

**PROBLEM:** Create a modern, friendly building for active seniors in a hot, flood-prone area

**SOLUTION:** Keep ground floor free of apartments to limit flooding damage. Create continuous wraparound louvered decks and a rooftop gathering space to foster social interaction

**CHARLESTON, SOUTH CAROLINA** is renowned for its historic architecture. When **David Baker Architects (DBA)** partnered with local firm **McMillan Pazdan Smith (MPS)** to design a brand new housing project for low-income seniors, they needed to create a building that was modern but would incorporate elements of the city's historic fabric.

Like so many architects, DBA architect Daniel Simons was inspired by the distinctive residential building type referred to as the Charleston single house.

"There's a huge porch culture in the South, of people sitting on porches and seeing their neighbors," says Simons. "We were trying to find a way to make the porches have a communal quality to them."

The 47,851-square-foot building was designed around a central courtyard with open-air corridors running alongside, and replicating the look of the two-story piazzas common in

### **GROUND CONTROL**

Although the front porch is a cornerstone of Charleston socializing, excessive flooding made elevated versions in the form of huge wraparound decks, a must for new senior housing (above) designed by David Baker Architects.

PHOTOGRAPHY: COURTESY KRIS DECKER/  
FIREWATER PHOTOGRAPHY





many single house designs.

Like the single house, the 41 units in Williams Terrace are narrow, and each has its own porch. DBA worked with **Southeastern Architectural Systems** to create a porch screen comprised of sliding louvers that seniors could easily operate. Mounted on an aluminum track, the floor-to-ceiling 2-inch by 2-inch stained wood slats help regulate the temperature and provide shade throughout the day.

Each porch also has an overhead fan, allowing seniors to enjoy their communal space in hot weather, and facilitate cross ventilation via

windows on opposite sides of each apartment.

In a nod to the historic look of Charleston, all the bricks used for the facade of Williams Terrace were lime-washed.

But in a design that hinged on maximizing communal and open space, the designers also needed to contend with Mother Nature. Charleston is a low-lying coastal city, and Williams Terrace is located in a high-velocity flood zone. This consideration was especially salient because the property had once been home to another affordable housing complex that was destroyed

#### **SOCIAL SPACE**

Porches are an important part of social life in Charleston. DBA included overhead fans and screens with easily adjustable louvers to make sure these important spaces are well ventilated and comfortable for residents year round.





## CASE STUDY: RESIDENTIAL DESIGN



in a 1989 hurricane.

“We couldn’t put anything on the ground floor,” said Simons.

So the team decided to treat the ground floor like one enormous screened porch—a space that people could use to gather but, without any apartments or permanent structures, could withstand flood waters up to 14 feet high.

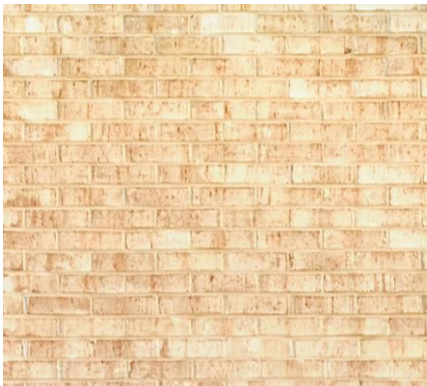
The ground level leads to a sidewalk that runs along a recently renovated public park.

Williams Terrace’s more permanent community space is located on the roof, keeping residents safe and affording expansive views of the city. ■

### TRADITIONAL DESIGN

Each unit is one room wide with a large screened porch, inspired by the design of the iconic Charleston single house.

### IN THIS PROJECT



#### TUSCANY STRAIGHT EDGE MODULAR BRICK (CUSTOM)

**MANUFACTURER:** Carolina Ceramics

**PERFORMANCE:** Rustic appearance, available in a range of colors; for this project, bricks were pre-aged.

**PRICE RANGE:** \$

**APPLICATIONS:** Available in modular and queen-sized; recommended for facades and external elements.

**CAROLINACERAMICS.COM**



#### HIDDEN SIDING FASTENER

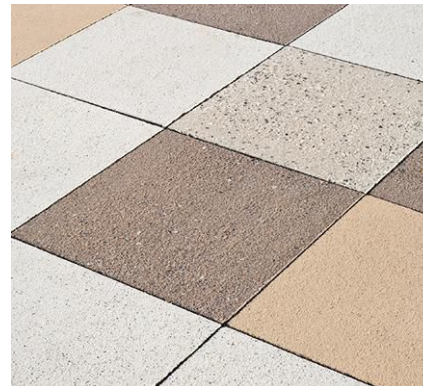
**MANUFACTURER:** DeckWise

**PERFORMANCE:** Helps reduce water penetration and mold growth in outdoor applications and can hold many different angles.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Recommended for commercial and residential projects; stainless steel fastener works with most types of hardwood.

**DECKWISE.COM**



#### HANOVER PREST PAVERS

**MANUFACTURER:** Hanover Pavers

**PERFORMANCE:** Low water absorption allows pavers to function like natural stone.

**PRICE RANGE:** \$

**APPLICATIONS:** Recommended for commercial and residential projects; can be used for a range of applications including pool decks and rooftop plazas.

**HANOVERPAVERS.COM**



#### PORCH LOUVER SCREEN

**MANUFACTURER:** Southeastern Architectural Systems

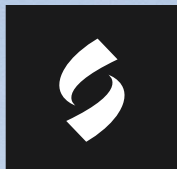
**PERFORMANCE:** Recommended for exterior use; allows for control of temperature, shade, and airflow in porch areas and home interiors.

**PRICE RANGE:** CUSTOM

**APPLICATIONS:** Adjustable louvers are comprised of 2” x 2” stained wood slats with an aluminum angle frame mounted on an aluminum track.

**SEAS-TR.COM**





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## CASE STUDY: RESIDENTIAL DESIGN

BY JOANN GONCHAR, FAIA

# Open House



### BAY AREA ABODE, ATHERTON, CALIFORNIA

**PROBLEM:** Create absolute privacy for one homeowner without ruining her neighbors' views

**SOLUTION:** Shield the house behind a 14-foot-high wall that resembles a sculpture.

#### WALLED OFF

From the street (above), the Roofless House appears to be windowless. But behind the curvilinear, 14½-foot-tall cedar-clad enclosure are living spaces that open up onto courtyards through generously sized sliding glass doors (left).

**THE RESIDENTIAL ARCHITECTURE** of Atherton, California, is nothing if not eclectic. Peeking out from behind the town's ubiquitous fences are modernist glass boxes, French chateaux, and Italianate villas. But a recently finished house in this leafy Silicon Valley suburb, by San Francisco-based architect **Craig Steely**, defies stylistic categorization. The enigmatic one-story structure on a long and skinny lot is defined by a sinuous, almost windowless wall clad in vertical cedar planks. Although about half of the 5,900 square feet behind the curving enclosure are sheltered under flat roofs, the architect has dubbed the residence the Roofless House, since the remaining space is devoted to courtyards and is open to the sky.

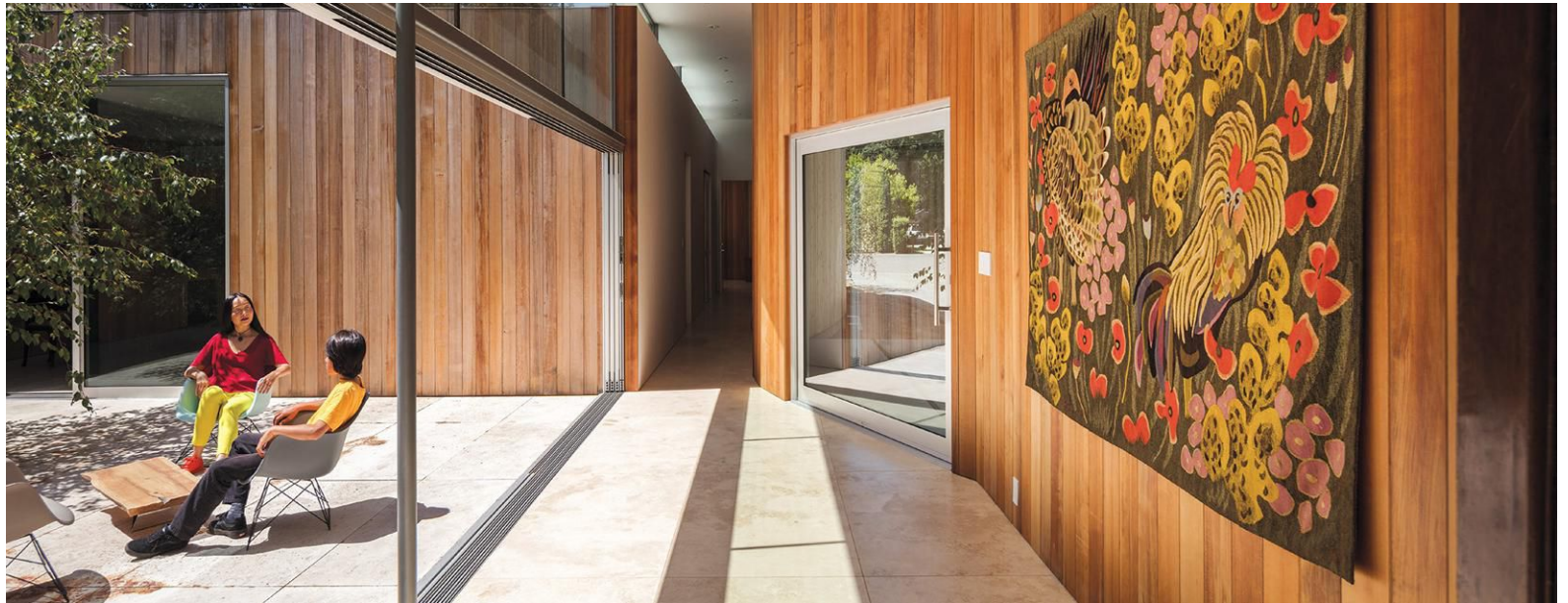
PHOTOGRAPHY: © DARREN BRADLEY





#### OVERHEAD LIGHT

The house is entered through a 7-foot-square glass pivot door into the foyer (right). The living and dining room (above, left) has courtyards on two sides and, at one end, the kitchen pantry (above, right). It is enclosed within a U-shaped, free-standing volume made of cedar planks, like the wall that surrounds the house.

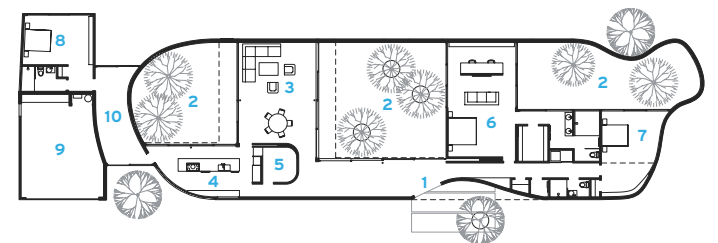


Steely's aim was to create an "escape pod" for his software-engineer client, who hoped to take advantage of the temperate Bay Area climate through as much outdoor area as possible, but who also wanted to limit her views of the surrounding architectural hodgepodge. The solution was to replace the typical Atherton perimeter fence with the 14-foot-tall wood wall, but pull it well inside the boundaries of the half-acre property.

The gracefully snaking element, supported by a steel frame with wood-stud infill, defines a house entered through a 7-foot-square glass pivot door into a foyer and approximately 100-foot-long circulation spine. The living areas open off this space, with three generous courtyards interspersed among them. Steely introduced the curves to the otherwise "conventional" plan, he says, as a means of selectively editing out undesirable views and instead directing attention upward, toward the clouds and the tops of nearby mature oaks and redwoods.

The result is a house that is insular but not hermetic. The rooms are light and airy, and flow easily into the courtyards through oversized sliding glass doors. The white-painted drywall ceilings seemingly float above the wood planks that clad not only the curving enclosure's outward-facing facade but also serve as the wall surface for the courtyards and interior living spaces. The travertine floors, meanwhile, continue into the courtyards, although there the pavers are supported on pedestals and are ungrouted, so that rainwater readily drains. These outdoor spaces include drought-resistant river birch trees, whose slender trunks extend through circular openings in the stone, creating the impression, says Steely, that the trees are growing indoors.

With such combinations of nature and architecture, curving and rectilinear, and spaces that are open and closed, Steely has created an inventive house that ingeniously screens out its less remarkable neighbors, while framing the sky and inviting the sun and breezes inside. ■



FLOOR PLAN

0 15 FT.  
5 M.

- |                 |                  |
|-----------------|------------------|
| 1 ENTRY         | 6 MASTER BEDROOM |
| 2 COURTYARD     | 7 BEDROOM        |
| 3 LIVING/DINING | 8 GUEST BEDROOM  |
| 4 KITCHEN       | 9 GARAGE         |
| 5 PANTRY        | 10 BREEZEWAY     |





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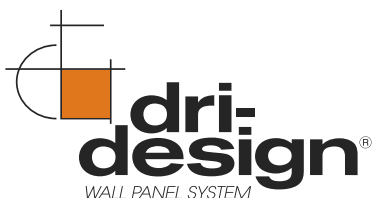
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# FORM + FUNCTION.



The Dri-Design Metal Wall panels on the Nordstrom Toronto Eaton Centre feature the Inspire Finish in a Shadow Series panel with varying levels of gloss. This variation gives the individual cassettes distinguishing pattern when viewed both near and far. Utilizing a custom Dri-Design detail, Custom LED light bars were also incorporated into the façade. The detail allows the light bars to be hidden within the horizontal joints.



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Nordstrom Toronto Eaton Centre | Design Architect: Callison/RTKL  
Architect of Record: Queen's Quay Architects





## Evening Star

**ARCHITECT YOSHIO TANIGUCHI'S** design of a new wing of the Kyoto National Museum is a minimalist annex that starkly contrasts with the original ornate, brick museum, which dates back to 1895. To make sure the landmark would also make a strong impression after dark, lighting design firm **Iwai Lumimedia Design** also orchestrated a balance between strong forms and nuanced illumination.

Making use of a translucent-glass curtain wall that fronts the building's lobby, lighting designers mounted fixtures along the wall's horizontal beam. Viewed from outside, the effect is similar to a glowing traditional Japanese paper lantern.

Lumimedia founder Tatsuya Iwai also wanted this luminous quality to extend to the limestone facade to highlight the richness of that material. To do this, he positioned a row of linear wall washers along the outside of a skylight above the lobby and focused them on the central upper register of the stone wall. Additional spotlights strategically located on the site are angled to illuminate the corners of the wall, and are tempered to ensure an even wash of light across its surface. The exterior lighting treatment articulates the building's architectural details at night and subtly merges the background plane with the foreground. The result is a dramatic nighttime identity for the museum.  
—*Leslie Clagett*



### NIGHT LIGHT

A combination of wall washers and spotlights illuminates the textured stone facade of the Heisei Chishinkan wing of the Kyoto National Museum.





## INTERCEPT

**MANUFACTURER:** Hubbell Outdoor Lighting

**PERFORMANCE:** This high-efficiency, high-output flood delivers up to 90,000 lumens. The aluminum housing can be fitted with a glare shield.

**PRICE RANGE:** \$\$

**APPLICATIONS:** The fixture is suitable for general and security lighting around port and rail centers, airports, and sports venues. The LED modules are scalable and can be dimmed to 10% brightness.

**HUBBELL.COM/  
HUBBelloUTDOORLIGHTING/EN/**



## LP XPERI

**MANUFACTURER:** Louis Poulsen

**PERFORMANCE:** Open-ribbed design allows sun to filter through the fixture during daylight hours. After dark, the ribs serve as reflectors for the LED lamps. California Dark Sky-compliant.

**PRICE RANGE:** \$\$

**APPLICATIONS:** The 14" x 4" x 30" aluminum luminaire can be used along rural pathways, streets, and parking lots. Designed by Christian Flindt.

**LOUISPOULSEN.COM**



## 12V LED FLOOD LIGHT WITH VARIABLE LUMEN OUTPUT

**MANUFACTURER:** Kichler

**PERFORMANCE:** A low-voltage floodlight offers three lumen output settings—500, 675, and 865—from a single fixture.

**PRICE RANGE:** \$\$

**APPLICATIONS:** The adjustability of this fixture makes it suitable for environments where lighting demands can change over time. Perfect for highlighting perimeter landscape plantings, community gateways, and commercial settings.

**KICHLER.COM**



## RONDO

**MANUFACTURER:** Archlit

**PERFORMANCE:** Rondo's driverless fixture provides up to 800 lumens and has a diffuser, enabling its 2,700K or 3,000K LED to provide comfortable illumination. TRIAC-dimmable only.

**PRICE RANGE:** \$\$

**APPLICATIONS:** The 5"-wide aluminum housing comes in black, white, and custom colors. It can be installed on walls and ceilings.

**ARCHLIT.COM**

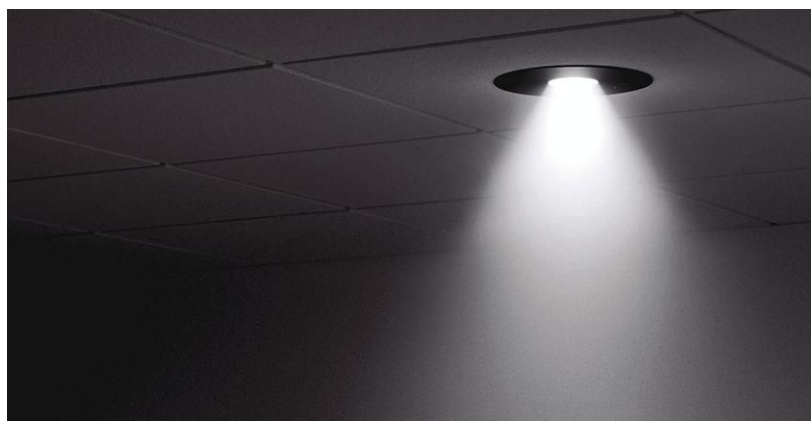
**KEY** \$=VALUE, \$\$=MID-RANGE, \$\$\$=HIGH-END

# Message Received

**THERE'S A GROWING TREND** to use LEDs not just as light sources but also as wireless data transmitters to address the problem of limited bandwidth in radio frequencies used by conventional WiFi networks. Potential applications for this exist in any public space where people tend to search for information on their mobile devices.

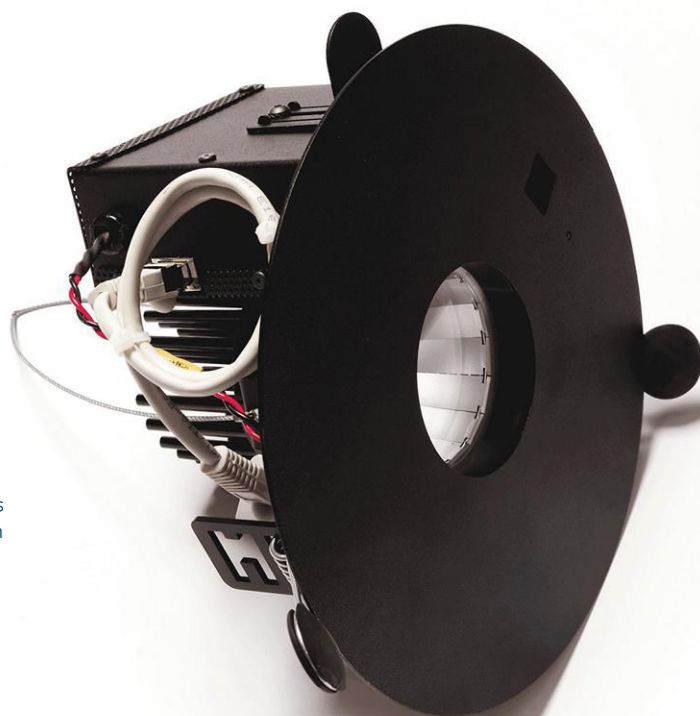
One technology central to the trend, called light fidelity—or LiFi, if you will—embeds data in light waves instead of radio waves. And as LEDs are semiconductors, the brightness of their illumination can be modulated to create a signal that special receiving devices can interpret as data.

In addition to LEDs, LiFi can also work with daylight—including direct sunlight. In fact, a pioneer in the technology, Edinburgh, Scotland-based **Pure LiFi**, has developed and tested receivers outdoors under 77,000 lux of sunlight. Because LiFi relies on detecting rapid changes in light's intensity, its signal strength is not affected by daylight's slower, gradual changes. Instead, the near-constant level of the sun's brightness is filtered out by a LiFi receiver, which keeps the data stream intact. —LC



## IN A NEW LIGHT

Potential applications for LiFi-enabled LEDs range from street lamps to bus shelters and train stations—anywhere people might conduct Internet searches on their mobile devices.





ARCHITECTURAL DIGEST

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**BRIGHTENING UP**

Clockwise: Vola HV1 faucet in orange, INOX CeraMax door handles in Glacier White, Kohler's Ombré Vibrant faucet in polished nickel fades to rose gold.

## Finishing First

**FORTUNE FAVORS THE BOLD**, and possibly the colorful. Unconventional finishes for hardware pieces are becoming popular choices for everything from faucets to grommets.

**Mockett's** PCS7f Series Power Grommets come with 15 finish options, including a variety of bright colors meant to stand out rather than blend in. The Power Grommets allow for a single or dual USB outlet and include a locking ring that permits them to be mounted almost anywhere.

**INOX's** door handles in Glacier White also offer a departure from traditional metal hardware.

**Vola's** HV1 faucets include statement shades of bright orange, electric green, and stoplight red in addition to subtler brushed stainless steel and matte black.

Even metal finishes are seeing a pop; **Kohler's** Ombré Vibrant fades its polished nickel and titanium finishes into a bright rose gold. Using Kohler's proprietary physical vapor deposition process, the finish is scratch- and tarnish-resistant. —*Vittoria Elliott*





## ELECTRICITY

**MANUFACTURER:** Buster + Punch

**PERFORMANCE:** This collection of marine-grade stainless steel, brass and aluminum switches, dimmers, and wallplates provide electrical outlets with an uncharacteristically hip finish.

**PRICE RANGE:** \$\$

**APPLICATIONS:** The line is UL-listed for use in North America and is sold individually or in sets to unify entire residential interiors.

**BUSTERANDPUNCH.US**



## EVOLVED HOLLYWOOD HILLS HANDLESET

**MANUFACTURER:** Baldwin Hardware

**PERFORMANCE:** Made of solid brass, this touch-to-open handleset and escutcheon are part of a collection that emulates a traditional style, but can be operated remotely with a smartphone.

**PRICE RANGE:** \$\$\$

**APPLICATIONS:** The smart handle is made of solid forced brass, requires no hardwiring and works with an app, making it programmable for unlimited key sharing.

**BALDWINHARDWARE.COM**



## GRACE COLLECTION

**MANUFACTURER:** Top Knobs

**PERFORMANCE:** Comprised of the company's most popular designs over the years, the Grace collection spans 276 pieces across six styles.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Made of zinc alloy, the pulls are recommended for adding style to residential applications—an affordable alternative to heavier metals in the same traditional designs.

**TOPKNOBS.COM**



## LOUVRE RAIL SYSTEM

**MANUFACTURER:** Amuneal

**PERFORMANCE:** Fabricated from a series of solid .25"-thick x 1.5"-wide steel slats, the Louvre Rail banister is a railing-only update of the company's whole-staircase system.

**PRICE RANGE:** \$\$

**APPLICATIONS:** The railing works with new and existing steps and can be specified as a divider wall. Handrails come in white oak or walnut.

**AMUNEAL.COM**

**KEY** \$=VALUE, \$\$=MID-RANGE, \$\$\$=HIGH-END

# Linear Drains

**WITH DRAINS,** as with real estate, it's all about location. And moving a shower drain can be an expensive endeavor for those remodeling or renovating, limited by proximity to drainpipes.

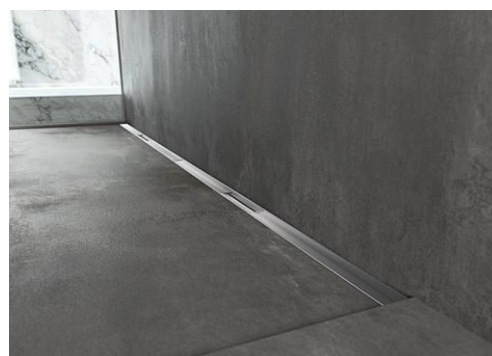
A new suite of products is looking to address these issues and expand the possibilities for bathroom renovations. Meet the linear drain.

**Schluter Systems'** KERDI-DRAIN-H and KERDI-SHOWER-CB allow the drain to connect any existing drain pipe—meaning the drain can be placed even in tricky spots, like against a shower wall. This can significantly reduce the amount of demolition or restructuring necessary to retrofit a drain into a new space.

**QM Drain's** linear drain allows for a flexible range of 8", letting the grate sit in a different position than the base. The linear drain can be cut to a specific length to fit a variety of spaces.—VE

## REVOLUTIONIZING THE RETROFIT

QM Drain's Supreme linear drain installed (above and right) and Schluter Systems' KERDI DRAIN (far right)





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# EVOLUTION<sup>®</sup>

CUSTOM ARCHITECTURAL METAL ROOF SYSTEM

U.S. Patent No. 9,181,692

**APPLICATIONS** EVOLUTION is a custom architectural metal wall and roof system without raised battens for a smooth contemporary design. It features concealed fasteners and a continuous internal drain channel. It can be used on straight and both concave and convex curved surfaces as well as complex surfaces with unique geometry.

**WARRANTY** Manufacturer’s 20 Years Leak-Proof Performance

**INSTALLATION** Overly provides a “complete” system package to include hardware, flashings, closures, etc. Custom shop drawings are standard and “Overly On-Site” mechanics assist with initial layout and start-up.

- Install starter base materials and continuous internal drain channels to a suitable substrate.
- HD Infill Board is set in place between drain channels prior to the metal roof panel.
- Install the panels between drain channel extrusions and anchor to substrate as required.
- Install the gasket to the compression cover and secure the assembly to the drain channel.
- Install & seal the cover cap securely over the compression plate to complete standard installation.
- Complete installation by installing perimeter covers and flashings.
- Can anchor to 3/4 plywood and a minimum 18GA metal substrate.

**TEST DATA**

- UL-580 Class 90 (Uplift Resistance)
- ASTM E 330 (Structural Performance)
- ASTM E 283 (Air Infiltration)
- ASTM E 331 (Water Penetration)

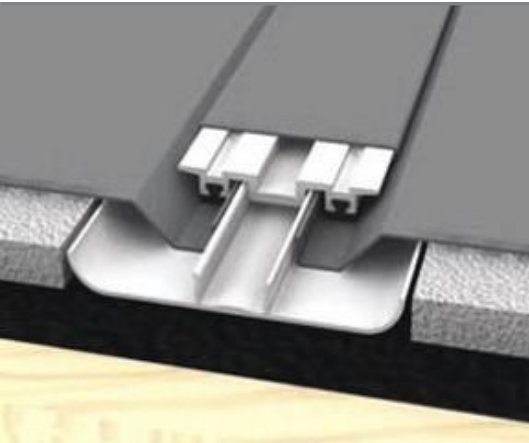
Testing is not applicable to all substrates, materials, and dimensions. Additional testing and analysis is available upon request.

**COVER CAP** The width of the cover cap is 2 ¾ inches.

**PANEL SIZE** Width: Maximum extrusion center is 4 feet in select materials and gauges  
Length: Maximum panel length is 30 feet in select materials and gauges

MATERIALS & FINISHES	MATERIAL	PANEL THICKNESS / WEIGHT	FINISHES
	Aluminum	18 GA (0.040”) / 16 GA (.050”)	Painted (PVDF) finishes include: Standard, Custom Metallic, Mica, Exotic, Weathered Patina Prints, Woodgrain Prints, Embossed
	Stainless	24 GA (0.024”) / 22 GA (0.029”) 20 GA (0.036”)	2B, 2D, Matte, Custom Directional & Non-directional
	Titanium	26 GA (.018”) / 24 GA (.024”)	(Grade 1) Mill and Matte
	Zinc	0.7 mm / 0.8 mm / 1.0 mm	Back Coated Natural, Pre-Weathered, Colored

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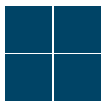


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## A More Rugged Rug

**ADVANCED MANUFACTURING TECHNOLOGY** means more companies can offer statement rugs and carpets that also stand up to the high traffic demands of busy spaces. One example is **Bentley's** Redux, a Cradle to Cradle-Certified, NSF 140-certified, CRI Green Label Plus-certified carpet tile available in 13 colorways and three tile sizes (9" x 36", 18" x 36", and 24" x 24"). And its multi-directional tiles use a gradual blending of color to produce an ombré effect that would not be out of place in common areas of multifamily residential projects. The line also features an easy-to-install, adhesive-free hook-and-loop system.

Just as versatile and durable is Forum from **Shaw Contract**, a collection

featuring a palette of neutral tones with sweeping black calligraphic lines available in a broadloom, carpet tile, and a 12'-wide x 18'-long rug format. And the latest **nanimarquina** collections, also for Shaw, make for statement pieces that perform: Herb is made entirely from hand-spun hemp, so it's lightweight and boasts natural thermal insulation; Tres Vegetal, another hemp-based flat weave made in India, is highlighted by natural irregularities in fiber thicknesses for a textural appeal available in beige, ivory, or off-white. The biodegradable fibers and antibacterial properties make both collections more eco-friendly. Given the right project, there's no reason some residential projects can't borrow a few contract-grade products and ideas.—*Ashleigh Van Houten*



### COZIER BY DESIGN

Residential-style design meets durability in the latest contract-grade rugs (clockwise from top left) from Bentley, Shaw Contract, and nanimarquina.





## VERVE

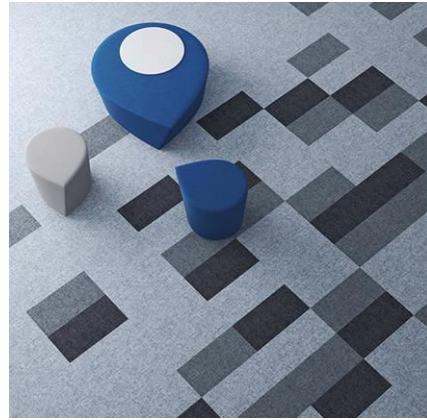
**MANUFACTURER:** Nemo Tile

**PERFORMANCE:** Available in 14 patterns and five sizes, this matte porcelain tile mimics wood and cement.

**PRICE RANGE:** \$-\$\$

**APPLICATIONS:** Providing durable wall and floor surfaces in neutral, cool tones, the collection also offers two additional geometric Moroccan-inspired designs.

**NEMOTILE.COM**



## ECOSYSTEM

**MANUFACTURER:** Patcraft

**PERFORMANCE:** This PVC-free flooring is offered in plank and sheet formats with a no-polish finish. Choose between Meaning, a fashion-forward abstract design, and Enrich, a modern wood look.

**PRICE RANGE:** \$\$

**APPLICATIONS:** The flooring has high performance ratings in medical and chemical-stain resistance testing, making it ideal for clinical and healthcare applications. It's also treated with a bio-based polyurethane, making it easy to clean and emissions-free.

**PATCRAFT.COM**



## PANGEA

**MANUFACTURER:** Relative Space

**PERFORMANCE:** The plank system, which can be installed in a range of unique patterns over radiant flooring systems, has a 3 mm wear layer of steamed European oak with an oil finish that highlights the natural variations of the wood grain.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Pangea's modular, engineered wood flooring strips can be specified preassembled as 3'-square tiles in five color options.

**RELATIVESPACE.COM**



## HERRINGBONE CLICK SYSTEM

**MANUFACTURER:** Havwoods International

**PERFORMANCE:** The flooring's interlocking system with four-sided beveled edges allows for fast installations and eliminates the need for right- and left-handed boards. Planks snap into place and can be arranged in a number of patterns such as diagonal, brick, and basket-weave.

**PRICE RANGE:** \$\$

**APPLICATIONS:** This line adds six new planks to the company's Design From Havwoods Collection: Aintree, Bath, Epsom, Windsor, Ascot, and Cheltenham in 1/8" thickness x 7 1/8" width x 86 5/8" length.

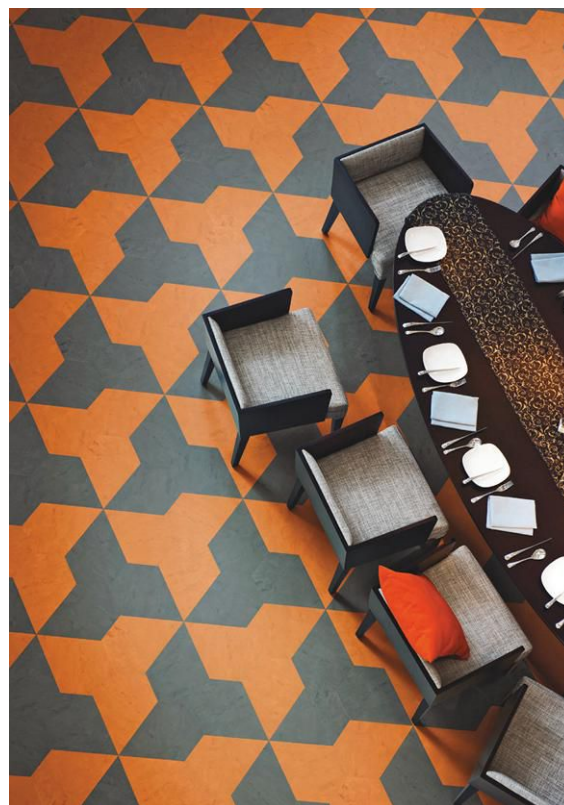
**HAVWOODS.COM**

**KEY** \$=VALUE, \$\$=MID-RANGE, \$\$\$=HIGH-END

# Bouncing Back

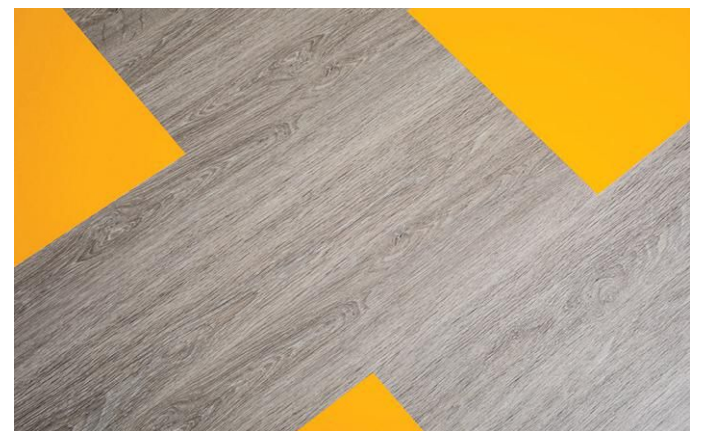
**VINYL AND RUBBER FLOORING** companies are amping up their designs to compete with stylish alternatives. A case in point is **Tarkett's** latest certified rubber flooring collection, **Pentagonals**, which combines a surprising level of style with function. Comprised of three puzzle-inspired patterns and 142 solid color options as well as a variety of marble and flecked colorways, the line adds fresh design opportunities in a material best known for being purely practical and easy to maintain. The product also exceeds Tarkett's sustainability goals: it's Cradle to Cradle Bronze certified v3.1 and ILFI Living Product Challenge Imperative Certified with a Water Petal certification.

Also easy to maintain, the **Colour** design series of Studio Luxury Vinyl from manufacturer **Parterre**, offers 18" x 18" tiles with highlights of vibrant colors and shapes—ideally suited for visual delineation in busy zones. Studio Luxury Vinyl also has an ultra-clear, high performance wear layer that makes the flooring resistant to stains and scuffs. —AVH



## A FRESH LOOK FOR RESILIENT FLOORS

Tarkett's rubber **Pentagonals** collection (above) and **Raya** and **Tela** from Parterre's **Colour** design series (right, top and bottom) stand out for their unlikely pops of color.







## It's a Wrap

**BEFORE ITS REBIRTH** as a financial services company called Symmetry Partners, this 40,000-square-foot, windowless building in a Glastonbury, Connecticut, industrial park sat vacant for several years. It was originally a data center. “People called it ‘the bunker,’” says Michael Tyre, principal of Hartford -based **Amenta Emma Architects**, a firm charged with renovating the building into something surprising, edgy, and artful.

To get the biggest impact on a tight budget, Tyre determined that the main gesture would need to be added right at the curb. So the architects focused a chunk of their energy on selecting exterior cladding whose performance could equal its visual impact.

Tyre’s team covered the exterior walls with **Amico’s** Apex 01 quarter-inch expanded aluminum mesh. Not only do the panels create a distinctive grid pattern on the facade, but they also



function as a brise soleil, mitigating glare and heat gain from a band of new windows punched into the south and west walls. The Amenta Emma team even detailed the screen to ensure its pattern conceals as much of the support framework as possible for a cleaner look. Although the material is humble, that step, so important to the integrity of the design, required considerable coordination between the vendor,

fabricator, and architects. The screen also needed to hold up under the added weight of accumulated ice in winter.

To add drama at the entry, a canopy of Cor-Ten steel panels from **MetalTech USA** combines with the aluminum screens to create dynamic angles. The two elements were conceived as a single-folded surface moving across the building, yet each has its own unique material articulation relative to its function. —*Leslie Claggett*

**CURBED ENTHUSIASM**  
Wrapping the existing building in a scrim of powder-coated aluminum mesh provides an economical and aesthetic new facade. In future, part of the screen can even serve as a guardrail for a planned roof deck.

PHOTOGRAPHY: COURTESY ROBERT BENSON





## SUPERKÜL

**MANUFACTURER:** reSAWN TIMBER

**PERFORMANCE:** *Shou sugi ban*, the traditional Japanese timber-charring process, produces a surface that is rot-, insect-, and hygroscopic movement-resistant. Sustainably sourced, LEED eligible.

**PRICE RANGE:** \$\$

**APPLICATIONS:** The polymer-enhanced softwood is dimensionally stable and has a 30-year outdoor warranty against rot, making it suitable for siding and decking.

**RESAWNTIMBERCO.COM**



## COMPOSITE SIDING PANELS

**MANUFACTURER:** Everlast

**PERFORMANCE:** An integral hammer guide facilitates fast, one-person installation. Weather-, sun-, and wind-resistant, the siding is also fully recyclable.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Embossed with a cedar-like grain and texture, the 12' planks come in two profiles: 4 1/2" and a 6 7/8" single clapboard format. Both are offered in 14 low-gloss colors with optional matching trim.

**EVERLASTSIDING.COM**



## 3M SMOG-REDUCING GRANULES

**MANUFACTURER:** 3M

**PERFORMANCE:** A photocatalytic coating on the granules releases radicals when activated by the sun and transforms smog pollutants into water-soluble nitrate (NO<sub>3</sub>) ions that wash away with rainwater over time. The granules are opaque, protecting the asphalt substrate from the effects of sunlight.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Embedded into residential roofing shingles, these ceramic-coated rock granules are available in a blue-gray color that can blend in.

**3M.COM**



## DIGITALLY PRINTED SIDING

**MANUFACTURER:** Dizal

**PERFORMANCE:** A high-definition inkjet printing process transfers 660 dpi images onto non-combustible, non-corrosive aluminum, which is LEED eligible.

**PRICE RANGE:** \$\$

**APPLICATIONS:** The 16'-long planks are offered in 4", 6", and 8" widths and several profiles that can include optional trim and accessories.

**DIZAL.COM**

**KEY** \$=VALUE, \$\$=MID-RANGE, \$\$\$=HIGH-END

# Building a Safer Green Roof

**THE INDELIBLE IMAGES** of the scorched landscapes and structures following the recent firestorms in California are causing some to reconsider the combustibility of green roofs. But clarity is emerging on that issue: effective with the 2018 edition of the International Building Code, vegetative roof systems must meet the same fire classification requirements as the roof covering and roof assembly materials.

While many architects know best practices for these roofs, those with residential clients unused to the standards may want to refresh themselves and remind clients about the green roof schemes that are not just aesthetically pleasing but also fire-rated.

Due to many variables—such as plant type, condition, depth of the growing media, and combustibility of the assembly materials—a classification of exterior fire exposure cannot be made with certainty just yet. However, choosing appropriate plants is key to safer roof design. For starters, pick plantings already evaluated for their fire-resistance, drought tolerance, and non-aggressive root systems which are less likely to penetrate and compromise underlying layers of waterproofing. Class A-rated assemblies are limited to succulent-based systems. Experts recommend at least 60% of a roof's vegetation come from the sedum family of groundcover plantings. It is also best to avoid grasses and mosses, which can dry out and create a potential fire hazard.

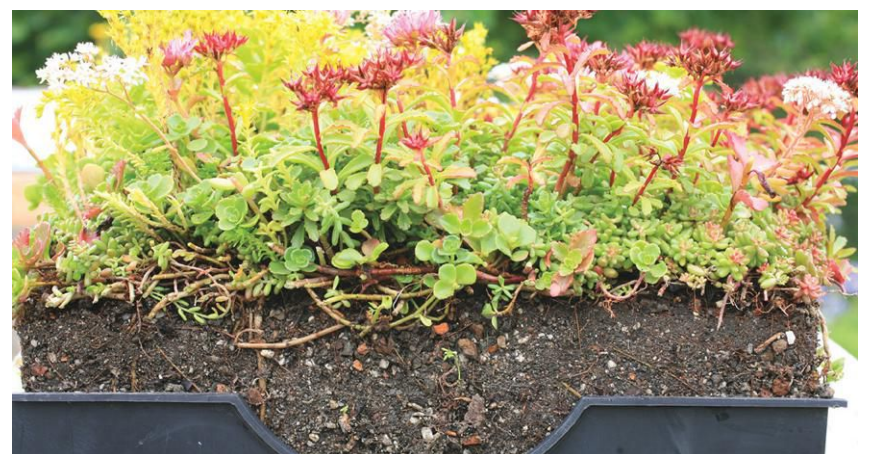
Meanwhile, border zones free of vegetation can provide a fire break at rooftop equipment, penetrations, and structures. They also work to reduce the potential generation of wind-borne debris at roof perimeters and corners and provide additional resistance to high-wind pressures.

Clients should know that maintenance also plays a role in the roof's fire-rating. Moisture levels of growing media should be checked regularly and the irrigation schedule adjusted to retain moisture and plants' health. Weeding, fertilization, and removal of dead or dormant plants is just as important here as on the lawn, since ignoring excess biomass could inadvertently fuel a fire. —LC

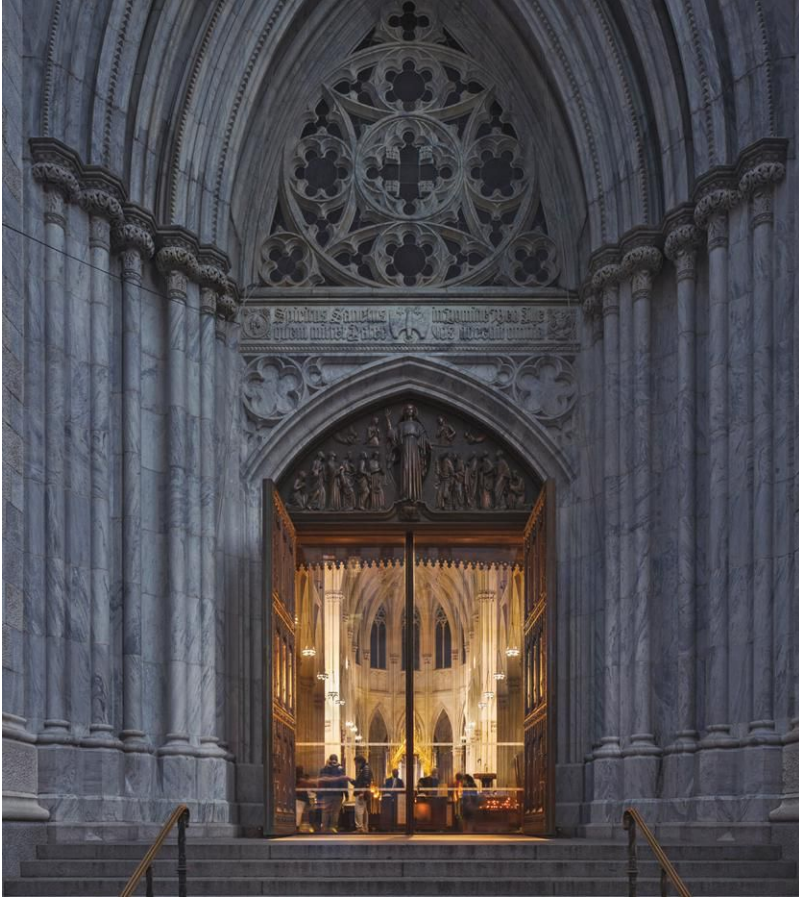
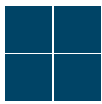


## SELECT SUCCULENTS

Sedum-based plantings require relatively little water and have shallow root systems, making them suitable for fire-rated green roofs.







## Making an Entrance

### ENERGY-SAVING WINDOWS AND DOORS

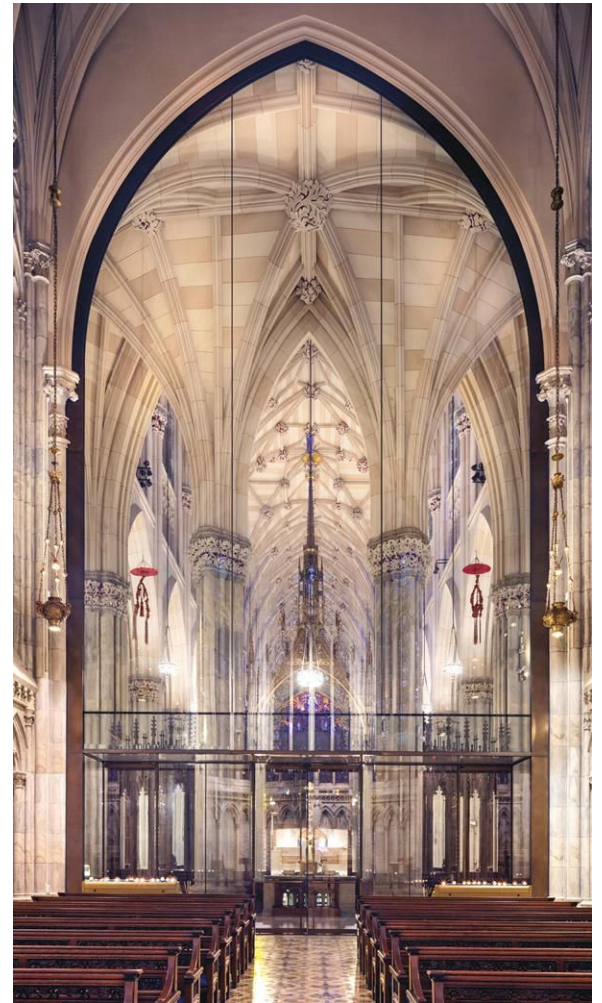
usually aren't the most newsworthy updates in a historic preservation, but two such solutions completed as part of the critical 10-year preservation of St. Patrick's Cathedral in New York City a couple of years ago warrant careful review for their elegant simplicity.

Asked to find an energy-efficient way to keep the cathedral's 9,000-pound bronze doors open during visiting hours, **Murphy Burnham & Buttrick Architects (MBB)**, the firm leading its preservation, designed transparent glass insertions to enable the practice without obstructing the church's inspiring architecture. The MBB team understood that the doors are left open because "the entrance is symbolic of core congregation values of openness, welcome, and a sense of refuge," explains MBB partner Jeffrey Murphy. Still, leaving them ajar had previously led to an expensive loss of conditioned air and energy. The solution: MBB worked with **Silman and Eckersley O'Callaghan Engineers** and glass manufacturer **Seele**, to devise massive transparent glass pocket doors that slide open and closed using **Vitrocsa's** Invisible Wall

System. Now, at the push of a button, the panels slide within floor channels and vanish into the new interior wall MBB built out to house them. With the original bronze doors open, the clear-glazed entry looks virtually unobstructed.

Just like the impressive bronze doors, the cathedral's lofty ceilings are meant to inspire worshippers and need to remain visible. But with a high volume of visitors, they're also less than ideal for quiet worship. So in the cathedral's Lady Chapel where regular devotions are held, the architects employed glazing again—this time, using it to control noise.

MBB conceived an 880-square-foot, 48-foot-tall glass wall that reaches the Lady Chapel's arch to acoustically isolate the space. **CRL Jackson** 900 doors with ultra-slim rails and custom hardware grant entry into the chapel and close as needed without hindering sightlines. "The archdiocese recognized that an all-glass scheme would achieve their goals for the chapel while being deferential to the cathedral's architecture," says Murphy. "As you approach the chapel the transparency makes it appear as if there's no wall at all." —*Sheila Kim*



### GLASS ACTS

Glass sliders enable St. Patrick's bronze entry doors to open (top left and right) without wasting energy. A floor-to-vaulted ceiling glass wall (above) acoustically seals off the Lady Chapel.





### DT 750 DOOR TERMINAL

**MANUFACTURER:** Häfele

**PERFORMANCE:** This door system uses Dialock with RFID technology for quick operation via a key card, and features both a do-not-disturb function and an emergency deadbolt release.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Suitable for securing interior doors, cabinets, and other areas, Häfele's Dialock is compatible with various building network and management software.

**HAFELE.US**



### WOOD-ULTREX INTERIOR FINISHES

**MANUFACTURER:** Integrity Windows and Doors

**PERFORMANCE:** Previously available in bare or white, the interior-facing wood frames of Wood-Ultrex windows and doors now also come in Clear Coat and Designer Black.

**PRICE RANGE:** \$\$

**APPLICATIONS:** Ideal for use in most residential projects regardless of house style.

**MARVIN.COM**



### SERIES 900 TERRACE DOOR

**MANUFACTURER:** CRL-U.S. Aluminum

**PERFORMANCE:** This clean-lined terrace door comes with a new optional low-profile threshold. Projecting just 1/2" from the floor, the threshold is ADA-friendly and thermally broken with an inch of insulating glass.

**PRICE RANGE:** \$\$

**APPLICATIONS:** The streamlined design and new threshold option makes the door well-suited to multi-unit residential and hospitality projects.

**CRLAURENCE.COM**



### AXES

**MANUFACTURER:** Maars Living Walls

**PERFORMANCE:** Axes acoustical doors form virtually seamless walls when closed and pivot to open up sightlines. As the steel units do not require floor tracks, they are ADA-compliant.

**PRICE RANGE:** \$\$-\$\$\$

**APPLICATIONS:** This system is ideal for spaces requiring flexibility in privacy and openness such as schools, offices, and healthcare environments.

**MAARSLIVINGWALLS.COM**

**KEY** \$=VALUE, \$\$=MID-RANGE, \$\$\$=HIGH-END

## Glazed and Amused

**RETRACTABLE GLASS WALLS** are increasingly becoming a standard offering and not just a specialty. And one reason may be that people are starting to expect these streamlined entrances in both commercial and residential environments, says Andrew Haring, vice president of business development at the **National Glass Association**. "The places we live, work, and play in are all subject to real-estate compression," Haring says, explaining that we all expect to squeeze into a smaller footprint. "Glass seems to be the effective space-saving conduit," he adds.

The revelation is not lost on manufacturers of doors and operable walls, which are keeping pace and rolling out new technical and aesthetic features. Arc3D, by **DoorWall Systems**, is exemplary in its ability to seamlessly integrate an operable door in glass facades without the clutter of hydraulics or cables; instead it uses a direct-drive system. The garage-style door boasts a thermally broken aluminum frame and 1 5/16" triple-pane insulated safety glass.

As interior walls, glass is also an increasing solution. To add noise-control, **NanaWall's** AcoustiFOLD, out this year, provides a floor-supported folding wall with sound-dampening glass, discreet gaskets, and an STC rating of up to 45. Additionally, the wall's flush sill is ADA-compliant for a truly seamless transition.

While horizontal sliding-door systems retract into the walls to eliminate door swings, not all walls can be made to accommodate the necessary door pocket. Some manufacturers are even addressing this hurdle, by enabling designers to specify a guillotine-, garage-, or hangar-style system. One example is **HIRT's** SF90 Descending Wall, which as its name suggests, lowers at the press of a button and disappears into the floor to open up an interior space. In units of up to 20-feet square, SF90 provides the same thermal insulation and air- and water-tightness as its horizontal sliding counterparts. The appeal of all of these advanced doorway offerings is simple, says Haring: "Bring the outside in when you want, and keep the weather out." —SK

**SOUND OFF**  
NanaWall's new operable glass wall system (above right) uses specially designed gaskets and sound-dampening panels to control noise. AcoustiFOLD in a school corridor (right).

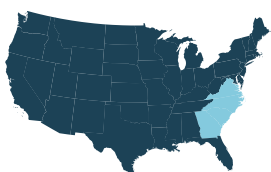




# The Winds of Change

*Manufacturing is booming in Georgia, Virginia, and the Carolinas. But challenges lie ahead.*

BY J. MICHAEL WELTON



**FOR FIVE YEARS**, four Southeastern states have had impressive growth in their manufacturing sectors. Now construction slowdowns and

trade policies paint an uncertain future.

North Carolina, for example, generated \$102 billion in manufacturing in 2017, compared with \$92 billion four years earlier. That growth contributed to a surge in jobs. “In terms of head count, 468,000 North Carolina residents work in manufacturing today, up 25,000 from five years ago,” says Chris Chung, CEO at the Economic Development Partnership of North Carolina.

In October 2018, the South Carolina Department of Commerce reported average weekly manufacturing hours there rose 3.8 percent, local unemployment claims dropped 7.3 percent, and housing permits jumped 9 percent.

Bristol, Virginia-based **Strongwell** reported rising demand for its fiber-reinforced polymer composites in 2017 that coincided with “an uptick in oil and gas and commercial construction,” says Barry Myers, Strongwell’s corporate marketing manager.

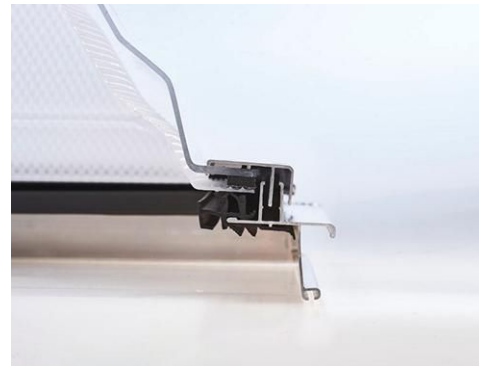
Meanwhile in Georgia, Georgia Manufacturing Alliance CEO Jason Moss says, “Wages are increasing, because we’re all competing for the same people.”

Yet there are signs things are starting to cool. **MTI Baths**, a supplier of bath fixtures in Sugar Hill, Georgia, reports its double-digit annual growth halted, with a recent housing slowdown. “One reason is that the cost of materials is soaring,” CEO Kathy Adams says. Another: millennials aren’t buying enough houses to fuel the market. The specter of tariffs and renegotiated trade deals is not helping, says Stephen Moret, president and CEO at the Virginia Economic Development Partnership. “We’re seeing activity, but uncertainty makes economic development less resilient,” he says.

# Georgia, The Carolinas + Virginia



**1** **MANUFACTURER:** Shaw Contract  
**LOCATION:** Cartersville, GA  
**PRODUCTS:** Flooring and carpet  
**FOUNDED:** 1967  
**EMPLOYEES:** 22,300 (total for Shaw Industries)  
**PRICE RANGE:** \$\$  
[SHAWCONTRACT.COM/EN-US](http://shawcontract.com/en-us)



**2** **MANUFACTURER:** Velux Group  
**LOCATION:** Greenwood, SC  
 (headquarters in Denmark)  
**PRODUCTS:** Skylights  
**FOUNDED:** 2017  
**EMPLOYEES:** 9,500 worldwide  
**PRICE RANGE:** \$\$  
[SKYLIGHTOFFERS.COM/DYNAMIC-DOME](http://skylightoffers.com/dynamic-dome)



**3** **MANUFACTURER:** Palmetto Brick  
**LOCATION:** Wallace, SC  
**PRODUCTS:** Residential and commercial brick  
**FOUNDED:** 1919  
**EMPLOYEES:** 89  
**PRICE RANGE:** \$\$-\$\$\$  
[PALMETTOBRICK.COM](http://palmettobrick.com)



**4** **MANUFACTURER:** Brian Boggs Chairmakers  
**LOCATION:** Asheville, NC  
**PRODUCTS:** Custom wood furniture  
**FOUNDED:** 2013  
**EMPLOYEES:** 11  
**PRICE RANGE:** \$\$\$  
[BRIANBOGGSCHAIRMAKERS.COM](http://brianboggschairmakers.com)



## SNAPSHOTS

### GEORGIA



The manufacturing sector constitutes at least **\$57.3 billion** in economic impact a year in Georgia, amounting to 10.8 percent of the state's total GDP.

In the third quarter of 2017, Georgia had about

**9,620**

facilities employing almost **400,000 manufacturing workers**.

SOURCE: OFFICE OF GEORGIA GOVERNOR, NATHAN DEAL

### NORTH CAROLINA

North Carolina's furniture industry is comprised of 3,000 companies and more than **35,000 employees**.



The state is home to High Point Market, the furnishings industry trade show, which attracts more than

**75,000**

attendees twice a year.

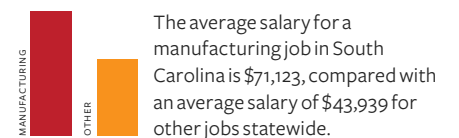
SOURCE: THE ECONOMIC DEVELOPMENT PARTNERSHIP OF NORTH CAROLINA

### SOUTH CAROLINA

Almost

**30 PERCENT**

of the state's manufacturing jobs depend on exports.



SOURCE: SOUTH CAROLINA MANUFACTURERS ALLIANCE

### VIRGINIA

Roughly 5,000 manufacturers employ more than 200,000 people, contribute

**\$34 BILLION**

to the gross state product, and account for more than 80 percent of the state's global exports.

Virginia is the national leader in **private shipbuilding and repairing**.



SOURCE: VIRGINIA MANUFACTURERS ASSOCIATION, VIRGINIA DEPARTMENT OF EDUCATION



**5 MANUFACTURER:** Hickory Chair  
**LOCATION:** Hickory, NC  
**PRODUCTS:** Upholstered and wood furniture  
**FOUNDED:** 1911  
**EMPLOYEES:** 500  
**PRICE RANGE:** \$\$\$  
**HICKORYCHAIR.COM**



**6 MANUFACTURER:** Hightower  
**LOCATION:** High Point, NC  
**PRODUCTS:** Contract furniture, magnetic glass boards, and accessories  
**FOUNDED:** 2003  
**EMPLOYEES:** 100  
**PRICE RANGE:** \$\$-\$\$\$  
**HIGHTOWERACCESS.COM**



**7 MANUFACTURER:** Strongwell  
**LOCATION:** Bristol, VA (headquarters and largest manufacturing facility) and Abingdon, VA  
**PRODUCTS:** Fiber-reinforced polymer composites  
**FOUNDED:** 1956 **EMPLOYEES:** 400+  
**PRICE RANGE:** \$-\$\$  
**STRONGWELL.COM**

**8 MANUFACTURER:** EOS Surfaces  
**LOCATION:** Norfolk, VA  
**PRODUCTS:** Preventive|biocidal surfaces  
**FOUNDED:** 2011  
**EMPLOYEES:** 30  
**PRICE RANGE:** \$\$  
**EOSCU.COM**











# Talkin' Trash

*Architects and their clients turn to the next frontier in building operations—garbage.*

BY JOANN GONCHAR, FAIA

**ARCHITECTS—EVEN THOSE** who don't call themselves super-green—by now are obliged to design buildings that conserve energy and water. But do they expect to create structures that allow occupants to better manage and reduce the waste they produce? Not so much. Nevertheless, that is what a number of zero-waste champions say is needed.

How can architects help? First, the background: every day, Americans create mountains of trash. We toss food scraps, garden clippings, dog-eared magazines, soiled take-out containers, threadbare clothing, and broken furniture. In 2015, the U.S. generated approximately 262 million tons of municipal solid waste, according to the most recent figures available from the Environmental Protection Agency. But, of that, only 91 million tons, or less than 35 percent, was recycled or composted. The majority was sent to landfills or incinerated.

As everyone knows, trash and recyclables clutter loading docks and obstruct basements. Garbage bags clog sidewalks and attract vermin, while the collection of this refuse exacerbates traffic and has an adverse impact on air quality. Municipalities and businesses spend huge sums to dispose of their waste, often shipping it to distant states or even internationally to landfills or recycling centers.

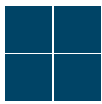
Less well known, perhaps, is the relationship between the disposal of waste and global warming. Since landfill gas is in large part methane—a greenhouse gas that is many times more potent than CO<sub>2</sub>—effective resource and waste management are needed to slash heat-trapping emissions. According to the Green Business Certification Institute (GBCI), increasing the national recycling rate by just 8 percent and reducing the amount of waste we generate by only 5 percent could eliminate the equivalent of 20 million metric tons of carbon.

Many progressive cities, of course, do recognize better management of their refuse as a powerful climate-change mitigation tool and have adopted ambitious waste-reduction targets in their long-range environmental plans. This summer, 23 cities signed on to an “advancing towards zero waste declaration,” sponsored by C40 Cities, a global environmental nonprofit organization. The signatories, which included seven U.S. cities, pledged that by 2030 they would reduce the amount of waste generated by each inhabitant by 15 percent and cut the amount sent to landfills or incineration by half.

## ONE WORD: PLASTICS

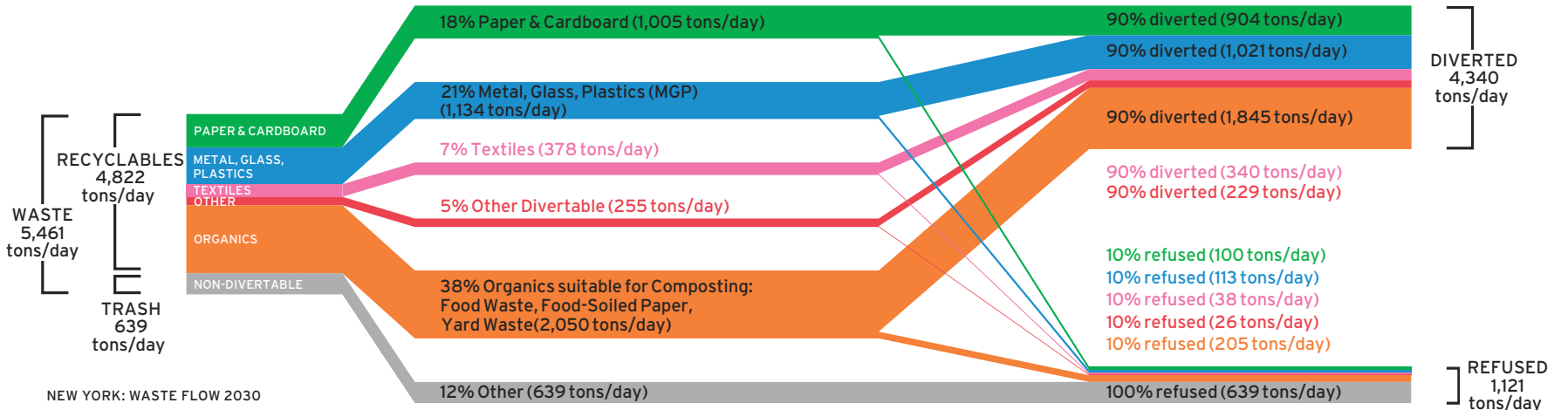
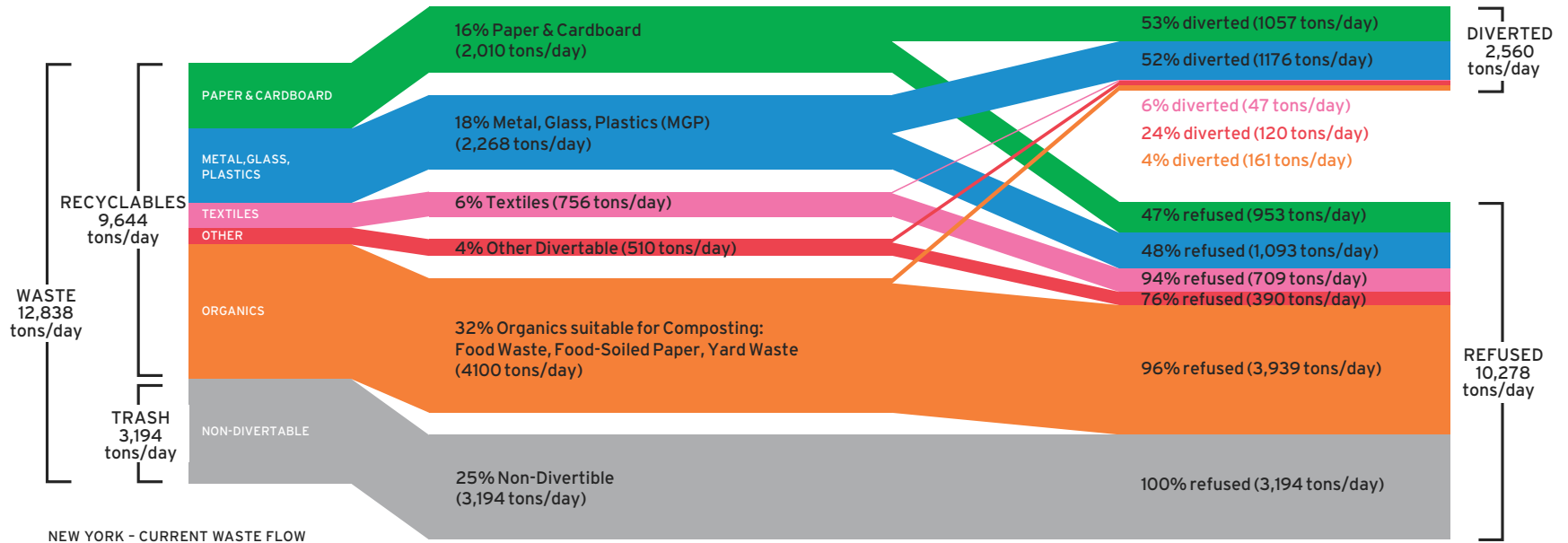
Recyclables from New York households, including plastic, metal, and glass, arrive at a facility in Brooklyn for sorting.





# CONTINUING EDUCATION: ZERO WASTE

FROM ARCHITECTURAL RECORD



## ZEROING IN

One way New York could meet its 2030 goals (above, lower) is by cutting the current amount of trash produced (above, top) by 80 percent, reducing the quantity of recyclables generated by 50 percent, and ramping up diversion of recyclables to 90 percent.

What does the term “zero waste” actually mean? The Zero Waste International Alliance defines it as “designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of water and materials, conserve and recover all resources, and not burn or bury them.” In practice, however, absolute zero is a tough mark to attain, especially for industrial economies, and many international and U.S. organizations recognize a 90 percent diversion rate from incinerators, landfills, or the environment as zero waste.

New York is one city whose zero-waste goals call for reducing what it sends to landfills and incinerators by 90 percent by 2030 (compared with a 2005 baseline of 3.6 million tons). Now, however, only about 20 percent of the garbage the city produces each day is diverted, and just over half of the metal, glass, and plastic that inhabitants discard is collected for recycling. A meager four percent of food scraps and other organic waste is collected for composting, through a voluntary program. To have any hope of reaching its tar-



## VISUAL AID

As part of San Francisco International Airport’s zero-waste by 2021 initiative, Gensler designed new receptacles and graphics to be used throughout the facility to help increase sorting accuracy and diversion.

gets, the city will have to drastically reduce the amount of waste generated and dramatically ramp up recycling and composting rates.

Architecture and design can help remove some of the roadblocks in the way of achieving goals like those adopted by New York, according to zero-waste advocates. One way is through clearer messaging. “People don’t recycle, because it is confusing,” says Ushma Pandya Mehta, cofounder of Think Zero, a waste-reduction and diversion consultant. The rules are constantly changing, and they are different from place to place, she says. But facilities with good signage and well-placed receptacles—along with education—typically see strong participation, adds her Think Zero partner, Sarah Currie-Halpern.

That’s what San Francisco International Airport (SFO) is banking on. As part of its goal to reach zero waste by 2021, it examined all aspects of airport operations, including offices, maintenance shops, and terminals. Then it reached out to Gensler for help. Sustainability director David Briefel describes the firm’s role as one that was





MENILMONTANT HOUSING - SECTION



MENILMONTANT HOUSING - AXONOMETRIC

“graphics heavy” but also involved coordinating with SFO management and custodial staff and assisting with studies of waste-diversion rates and sorting accuracy at security screening points, food concourses, gates, and at back-of-house areas. The physical product of this exercise was new trash receptacles and signage intended to help airport users and employees better differentiate the various waste streams. The graphics and bins have so far been installed in Terminal 2, but will ultimately be implemented airport-wide.

Reducing waste and recovering more for recycling and reuse can also entail infrastructure-scale strategies, such as the installation of pneumatic tube systems. Powered by turbines that generate a vacuum, these whisk away trash at high speeds to a central terminal. The technology reduces the amount of space that individual buildings must devote to storage of waste and eliminates the need for piling trash bags at the curb. Best-suited for new, multi-building complexes, the first systems were installed in Sweden in the 1960s and now exist all over the world.

#### BURIED TREASURE

Paris plans to have a bulk waste facility, or *espace tri*, in every arrondissement by 2020. Vincente Lavergne Architecture has included one below a sports field in an 85-unit social-housing complex it has designed for the 11th arrondissement.

Although they are still rare in the U.S., the apartment buildings on New York’s Roosevelt Island have a single-stream system that has been in continuous operation since 1975. It has been expanded several times and now serves 12,000 residents in 16 buildings. By the middle of the next decade, the city could have another complex relying on pneumatic waste collection. Plans for the primarily residential second phase of Hudson Yards—the megadevelopment rising over rail lines on Manhattan’s far West Side—include a pneumatic network with dedicated tubes for landfill items, recycling, and organics that would connect to seven buildings with a total of 4,000 apartments.

New developments can also provide resources that serve a much larger surrounding urban district. Clare Mifflin, an architect and founder of ThinkWoven, a New York-based urban-ecology consulting firm, points to Ménilmontant, an 85-unit social-housing complex under construction in Paris’ 11th arrondissement. In addition to incorporating a community garden and neighborhood sports facilities, it will include a below-grade *espace tri*—a staffed facility that will accept items that Parisians are not permitted to dispose of at curbside, such as appliances, furniture, and household hazardous waste. As part of its long-range environmental plans, the city aims to establish such a bulk waste center in every arrondissement by 2020. Ménilmontant’s *espace tri* will be the first in a residential complex. According to Pierre Maurette, a partner at Vincent Lavergne Architecture Urbanisme, the inte-





gration of the facility with the other neighborhood amenities was one of the reasons his firm was selected for the project.

Tools are starting to emerge that can help architects and their clients better manage the waste stream. Last year, AIA New York and a host of collaborators, including the Rockefeller Foundation, published a set of Zero Waste Design Guidelines, a 270-page examination of commercial and residential building design, urban infrastructure, collection methods, and policy. Already the document is influencing design decisions. The guidelines helped persuade the project team for Sendero Verde—a 655-unit mixed-income housing project for the Harlem neighborhood—to include a second trash chute for recyclables, according to Lauren Zullo, director of environmental impact for developer Jonathan Rose Companies. The three-building complex, by Handel Architects, slated for completion in 2021, is targeting Passive House certification, but also has a goal of waste-stream optimization, she says.

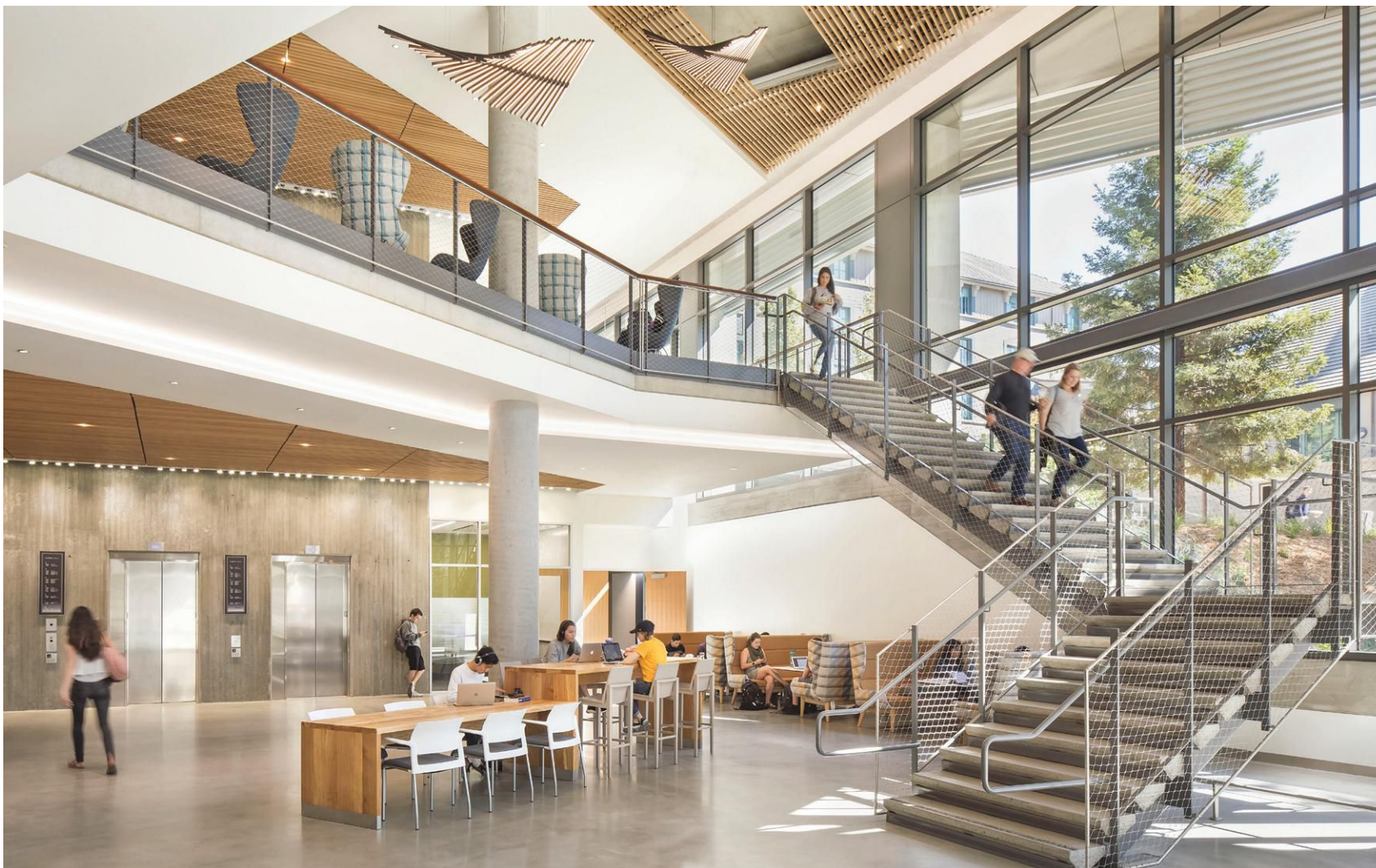
The guidelines are focused on solutions for New York, its unique building typol-

ogies, and its dense urban condition, but organizations in other locales are taking notice. Groups in Seattle are among those interested in adapting the recommendations to their circumstances, according to ThinkWoven's Mifflin, the document's lead author. She cautions, however, that it "is still very early days."

Another framework for the design and operations of facilities that minimize waste is the rating system TRUE, short for Total Resource Use and Efficiency. Previously known as Zero Waste Facility Certification, it was acquired two years ago by GBCI, which also oversees LEED and WELL (an occupant-health-focused standard). Similarly to those two systems, TRUE has a point-based structure and graded recognition levels, in this case Certified, Silver, Gold, and Platinum. Minimum requirements include demonstrating at least 90 percent diversion from landfills, incinerators, and the environment, and submittal of diversion data annually to GBCI.

Since Stephanie Barger, TRUE director of market transformation and development, maintains that the design of a facility "is absolutely critical to zero-waste suc-





cess,” it is ideal for ambitious targets to be adopted early in the life of a project. But such commitments can also be made later, as was the case with Chou Hall, a 76,000-square-foot, six-story classroom building for the Haas School of Business at the University of California, Berkeley. Designed by Perkins+Will, it is pursuing the certification trifecta of LEED, WELL, and TRUE. Although certification under LEED and WELL was decided upon during the design phase, the third rating system was added just a few months before opening, in August 2017. Administrators felt that Chou Hall should be the first TRUE-certified building on campus as part of the University of California’s system-wide goal for zero waste by 2020. “The idea was to create a blueprint that other Berkeley buildings could follow,” says Jessica Heiges, a master’s candidate in the College of Natural Resources, and one of the leaders of Chou’s TRUE-certification effort.

Chou Hall has many advanced and integrated features for energy efficiency, water conservation, and health, such as a high-performance building envelope, extensive daylighting, rainwater collection, and an inviting central stair to encourage students to forgo the elevator. Aspects of the design that should help with its TRUE certification include water-bottle filling stations and waste-sorting bins that are cleverly integrated into niches on each floor.

But since formally adopting the zero-waste goal, the multidisciplinary faculty, staff, and student TRUE team has closely examined Chou Hall’s operations, establishing new initiatives that had not been part of the design brief. One

area of particular scrutiny is the building’s café and the catering for its top-floor events space. “Food is the single largest generator of waste,” says Heiges. Some of the practices intended to shrink this footprint include collecting coffee grounds separately from other organics and sending them directly to a nearby farm; selling snacks from bulk containers, from which customers dispense the desired amount themselves into paper bags (to reduce the amount of uneaten food and eliminate plastic wrappers); and relying on reusable tableware and utensils for people who eat in and compostable ware for those who carry food out.

But all of these initiatives require space for storage and equipment, which is at a premium, says Danner Doud-Martin, the assistant director of operations for Haas’s international business-development program and the faculty leader for the TRUE certification effort. “Real plates and dishwashing capabilities were just not in the plans three or four years ago.” Despite these space constraints, Chou Hall is on track to achieve both True Platinum and LEED Platinum, along with WELL Silver, which would make it the first academic building to be certified under all three systems.

Such an intense focus on minimizing trash, like that exhibited by the Chou Hall certification team, may be relatively new, but it is an important aspect of building operations. TRUE’s Barger calls waste the “next frontier” in facility design. Let’s hope it is widely explored and embraced by architects and building owners. Getting to zero depends on it. ■

#### TRIPLE CROWN

Perkins+Will’s Chou Hall at the University of California, Berkeley (above and opposite), a classroom facility for the business school, is on track to be the first academic building to earn LEED, WELL, and TRUE certifications.

#### Continuing Education



To earn one AIA learning unit (LU), including one hour of health, safety, and welfare (HSW) credit, read “Talkin’ Trash,” review the supplemental material found at [architecturalrecord.com](http://architecturalrecord.com), and complete the quiz at [continuingeducation.com](http://continuingeducation.com).

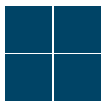
bnpmmedia.com or by using the Architectural Record CE Center app available in the iTunes Store. Upon passing the test, you will receive a certificate of completion, and your credit will be automatically reported to the AIA. Additional information regarding credit-reporting and continuing-education requirements can be found at [continuingeducation.bnpmmedia.com](http://continuingeducation.bnpmmedia.com).

#### Learning Objectives

- 1 Explain the relationship between the management and disposal of waste and global warming.
- 2 Define “zero waste” and other terms relevant to the topic of waste minimization.
- 3 Discuss how building design can help or hinder minimization of waste and maximization of recovery of materials for recycling or reuse.
- 4 Describe guidelines and standards that can assist architects and clients develop zero-waste facilities.

AIA/CES COURSE #K1811A





#### CULTURAL EXCHANGE

Shanghai Exhibition Centre (top and left) played host to Salone del Mobile.Milano Shanghai, the Chinese edition of the annual Italian tradeshow.

## West Courts East

*The famous Milan furniture fair grows roots in Shanghai*

**FOR A THIRD CONSECUTIVE YEAR,** Salone del Mobile.Milano Shanghai, an offshoot of the annual Italian furniture tradeshow, brought well-known Italian manufacturers to the Shanghai Exhibition Centre. The show attracted 22,500 attendees to visit 123 exhibitors including **Kartell, Artemide, Molteni & C, B&B Italia, Florim Ceramiche, Foscari**

and **Minotti**, along with a few companies from France and the United States. Despite the reportedly slowing pace of the Chinese economy and its recent trade war with the U.S., optimism about gaining ground in the market ran high. This year's show "justified our expectations," says Emanuele Orsini, president of Federlegno





**MADE IN ITALY**  
Clockwise from top:  
Foscarini's Spokes  
fixtures; Marva Griffin  
Wilshire, creator and  
curator of the young  
designers' showcase  
SaloneSatellite, with  
Italian singer Lorenzo  
Licitra; architect Yung  
Ho Chang teaching the  
master class "Earth  
Stations: Future  
Sharing Architectures";  
the Kartell booth.

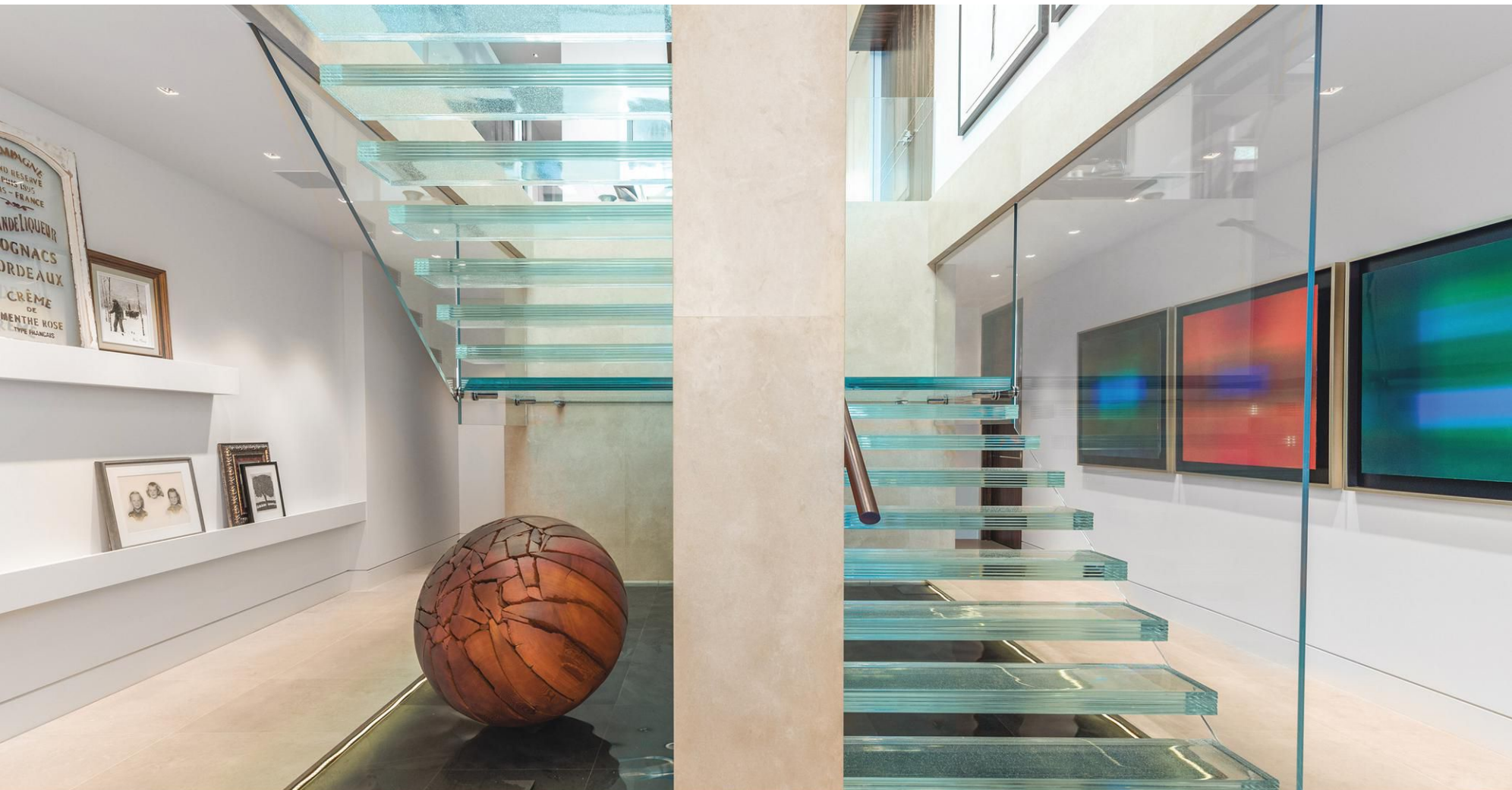




Arredo, one of the event's organizers.

A theme of cross-pollination pervaded Salone del Mobile.Milano Shanghai, which featured the signature attractions of the original Milan show. There was also a version of SaloneSatellite, the showcase for young designers that has been part of the Milan exposition since 2010. Its Shanghai iteration included 39 emerging Chinese designers, four of whom won SaloneSatellite awards. The first prize went to **Huang Jing** for a lamp, **Miaoyunzi Hu** came in second for a table, third prize went to **Ruixue Song** for a lantern, and **Duan Bingdong** earned honorable mention for a chair. The award winners, selected by a jury of design professionals, will be hosted at the SaloneSatellite at the Milan fair to be held this spring from April 9 to 14.

The organizers of Salone del Mobile. Milano Shanghai strove to present an equal number of talented designers from Italy and China, with the goal of building a cultural bridge between the two countries. One of the master classes at the show was taught by MIT professor and architect **Yung Ho Chang**, and another was jointly led by architect and industrial designer





**Roberto Palomba** and engineering science professor **Fu-Rong Chen.**

“There’s a huge appetite for Italian experience, our products, and our story,” says Claudio Luti, Kartell’s CEO, who is also president of the Salone del Mobile.Milano. “The Shanghai edition provides an opportunity to attract an increasingly broad Chinese audience to the Salone in Milan,” he adds.

**MARKETPLACE MAKER**

The show’s third edition drew roughly 2,500 more visitors than the previous year’s event.



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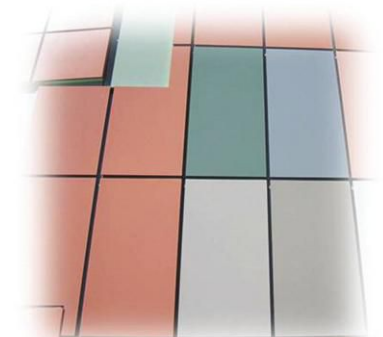
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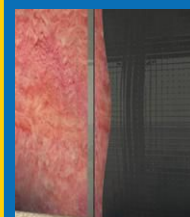
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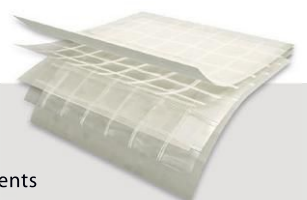
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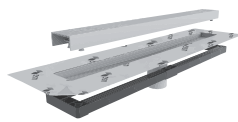


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## DATES + EVENTS

### NEW AND UPCOMING EXHIBITIONS

#### Dimensions of Citizenship: Architecture and Belonging from the Body to the Cosmos

CHICAGO

February 15–April 27, 2019

The official U.S. entry at the recently concluded 16th International Architecture Exhibition of the Venice Biennale will be on view for the first time in the United States. Devoted to exploring the notion of citizenship today and the potential role of architecture and design in creating spaces for it, Dimensions of Citizenship comprises seven unique installations, each created by a team of architects and designers. At Wrightwood 659. For more information, visit [wrightwood659.org](http://wrightwood659.org).

#### The Whole World a Bauhaus

ELMHURST, ILLINOIS

February 16–April 20, 2019

In celebration of Bauhaus100, the centenary anniversary of Germany's influential Bauhaus school of art and design, this traveling exhibition will display a range of work from masters including Mies van der Rohe, Walter Gropius, and Marcel Breuer. The show will be split into eight themes, with each also highlighting Bauhaus student projects, the school's impact on the international avant-garde, and how students and instructors sought to rethink their world. At the Elmhurst Art Museum. For more information, see [elmhurstartmuseum.org](http://elmhurstartmuseum.org).

#### Derrick Adams: Interior Life

NEW YORK

February 26–April 20, 2019

Inspired by a tenet of Catholic theology that describes "a life which seeks God in everything," this exhibition is a meditation on the intimate spaces of one's mind and home, each an analog for the other. It includes new portraits on paper from the artist's ongoing "Deconstruction Worker" series, which is installed on custom wallpaper depicting imaginary domestic environments. At Luxembourg & Dayan's New York gallery. For more, visit [luxembourgdayan.com](http://luxembourgdayan.com).

#### Patchwork: The Architecture of Jadwiga Grabowska-Hawrylak

NEW YORK

February 28–May 18, 2019

The exhibition will present the work of one of the most important Polish architects of the 20th century. Through models, films, and photographs, visitors will learn about Grabowska-Hawrylak's studies in the 1940's and her involvement in almost all stages of the reconstruction and creation of Wrocław, in what will be the first comprehensive presentation outside Poland of her work. At the Center for Architecture. Visit [centerforarchitecture.org](http://centerforarchitecture.org).

### ONGOING EXHIBITIONS

#### Edward Burne-Jones

LONDON

Through February 24, 2019

The exhibition charts the rise of the PreRaphaelite artist's path from outside the British art world to being a leading figure of fin de siècle Europe. More than 150 works in different media are on display. At Tate Britain. Visit [tate.org.uk](http://tate.org.uk).

#### Elemental: Alejandro Aravena So Far

HUMLEBÆK, DENMARK

Through March 3, 2019

The second in a series devoted to a single architect or firm, this show offers a look at the working process of Pritzker Prize-winner Alejandro Aravena's firm, Elemental Studio. At the Louisiana Museum of Modern Art. Visit [louisiana.dk/en](http://louisiana.dk/en).

#### Ai Weiwei: Life Cycle

LOS ANGELES

Through March 3, 2019

Chinese artist Ai Weiwei's first major institutional solo show in this city features new and previously unseen sculptural work made in response to the global refugee crisis. The title installation, Life Cycle, using the traditional Chinese medium of kites, depicts the inflatable boats refugees use to cross the Mediterranean Sea. At the Marciano Art Foundation. For more information, see [marcianoartfoundation.org](http://marcianoartfoundation.org).

#### Dior: From Paris to the World

DENVER

Through March 3, 2019

This exhibit surveys 70 years of the House of Dior's legacy and its global influence. A selection of more than 200 dresses, as well as accessories, traces the history of the haute couture fashion house, its founder, and the subsequent artistic directors who carried Dior's vision into the 21st century. At the Denver Art Museum. For more information, visit [denverartmuseum.org](http://denverartmuseum.org).

#### Faraway So Close: A Journey to the Architecture of Kashef Chowdhury/ URBANA, Bangladesh

BERLIN

Through March 6, 2019

This exhibition documents the work of the Aga Khan Award-winning architect, who notably designed the Friendship Centre in northern Bangladesh. More than a dozen buildings and projects are presented via models, photographs, film footage, and plans. At the Aedes Architecture Forum. For more information, visit [aedes-arc.de](http://aedes-arc.de).

#### Paul Rudolph: The Hong Kong Journey

NEW YORK

Through March 9, 2019

Through a series of drawings, sketches, and renderings not previously shown to the public, this exhibition at the Center for Architecture focuses on the American architect's three significant projects in Hong Kong. See [centerforarchitecture.org](http://centerforarchitecture.org).

#### In Practice: Other Objects

NEW YORK

Through March 25, 2019

This exhibit presents works by 11 artists and artist teams that probe the slippages and interplay between objecthood and personhood. From personal belongings to material evidence, sites of memory, and revisionist fantasies, the artists highlight curious and ecstatic moments in which a body becomes a thing or a thing stands in for a body. At SculptureCenter. For more information, visit [sculpture-center.org](http://sculpture-center.org).

#### Design and the Just City in NYC

NEW YORK

Through March 30, 2019

The exhibition asks viewers whether design can help correct urban injustice in cities. It features research from the Harvard Graduate School of Design's Just City Lab and examines five case studies in New York, using an assessment tool that includes 50 indicators and values that contribute to realizing the "Just City." An interactive map invites visitors to plot a collective manifesto for the Just City in New York. At the Center for Architecture. See [centerforarchitecture.org](http://centerforarchitecture.org).



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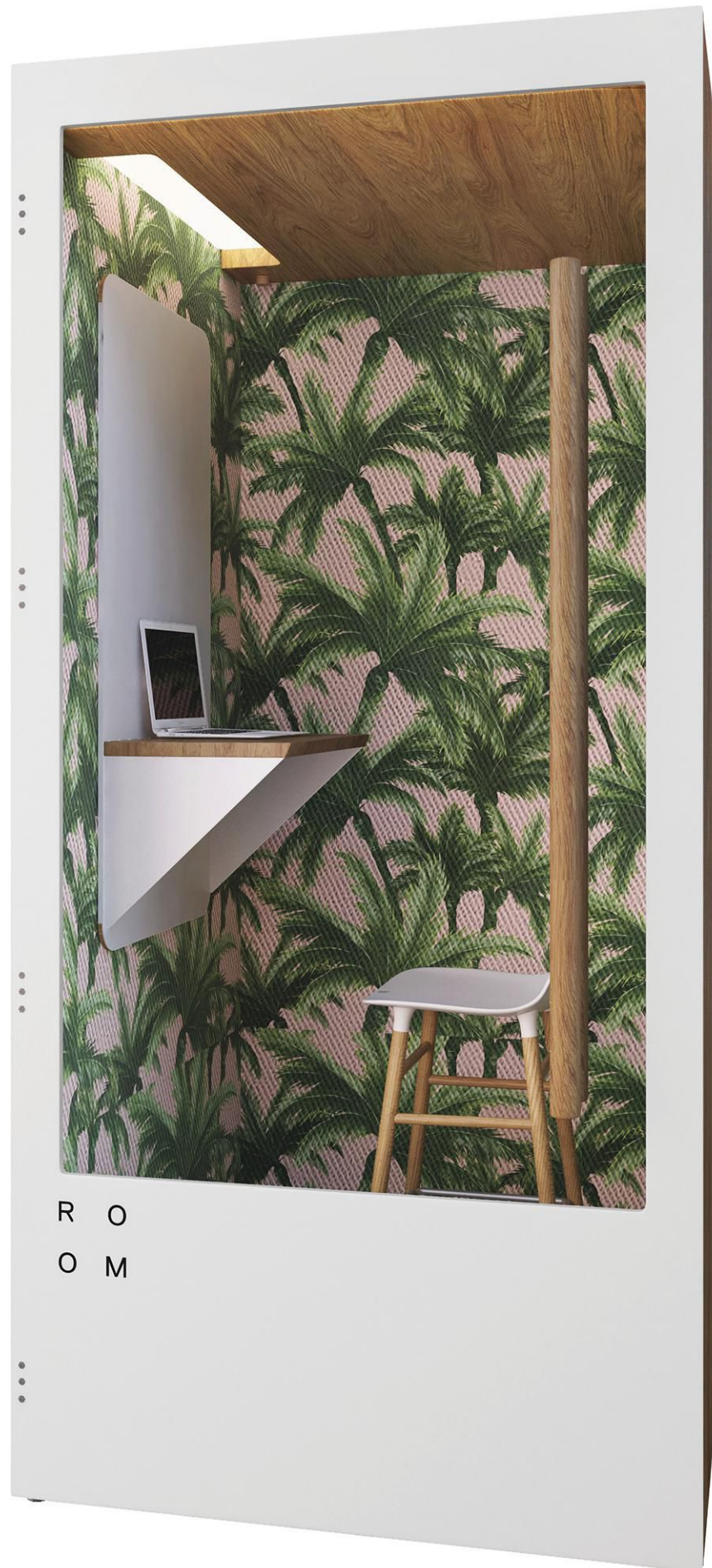




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