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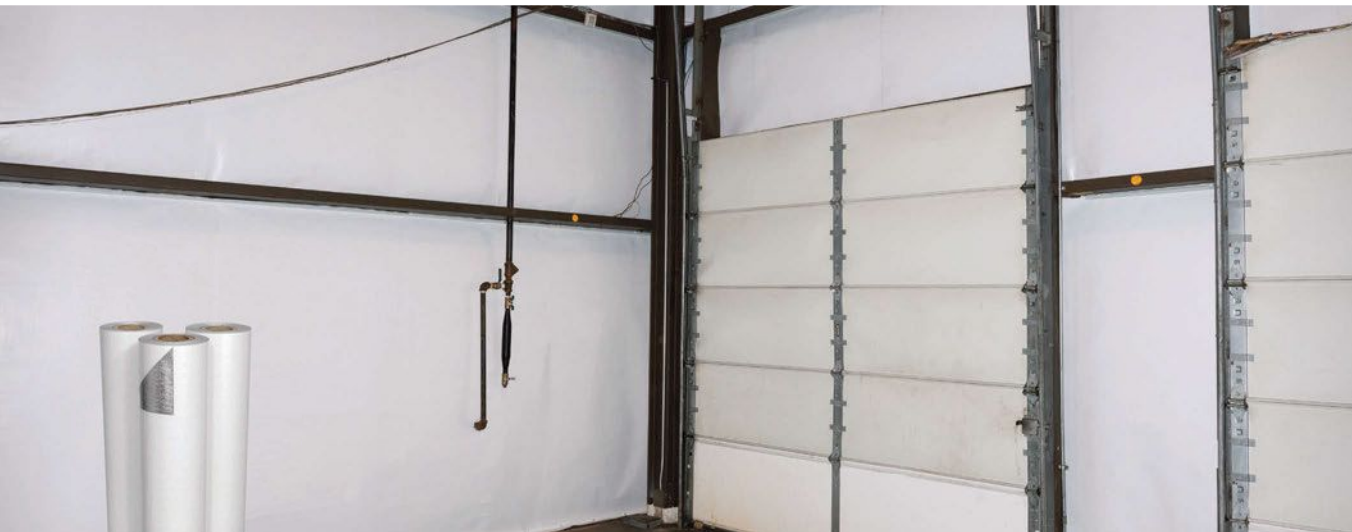


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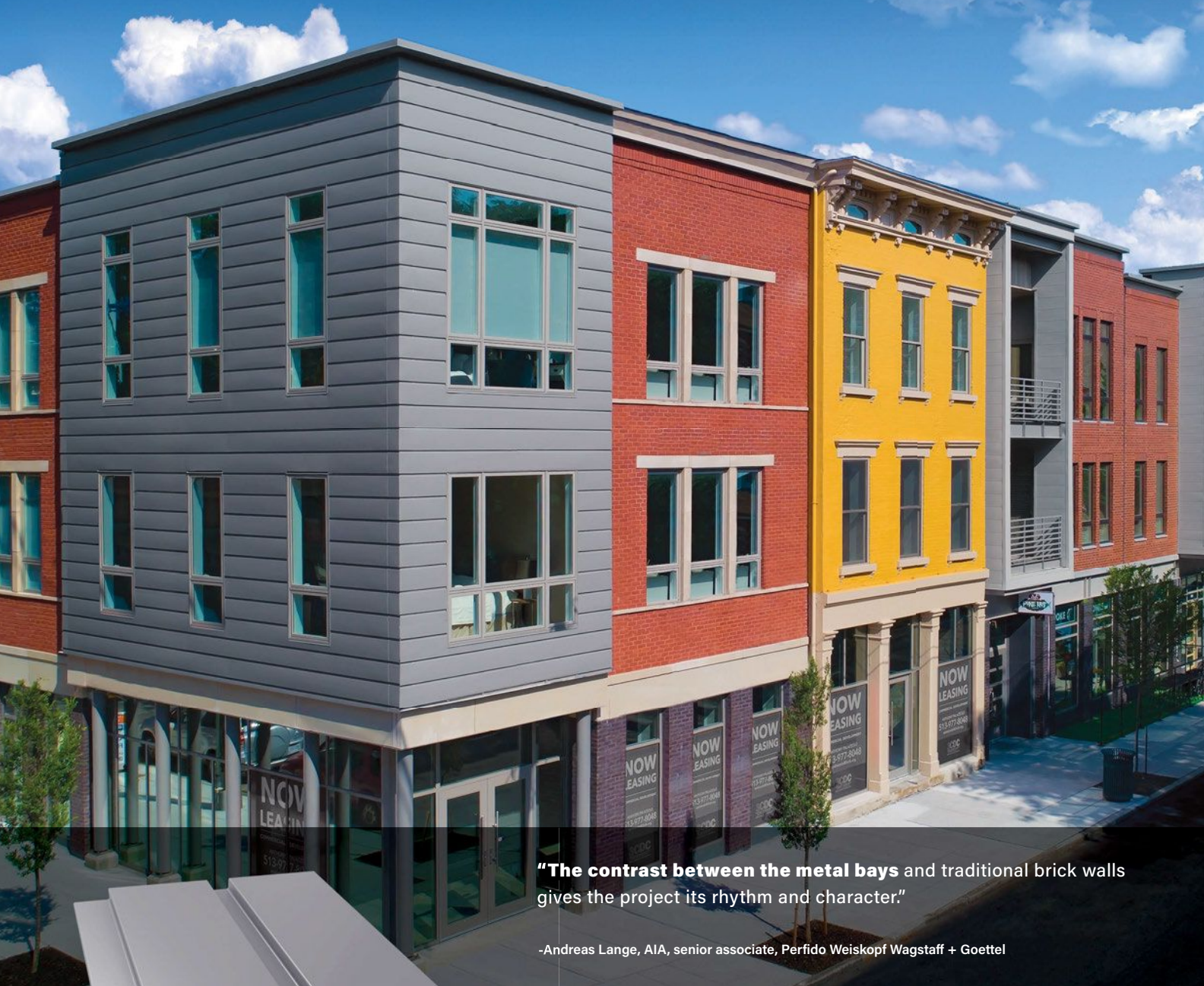
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-Andreas Lange, AIA, senior associate, Perfido Weiskopf Wagstaff + Goettel

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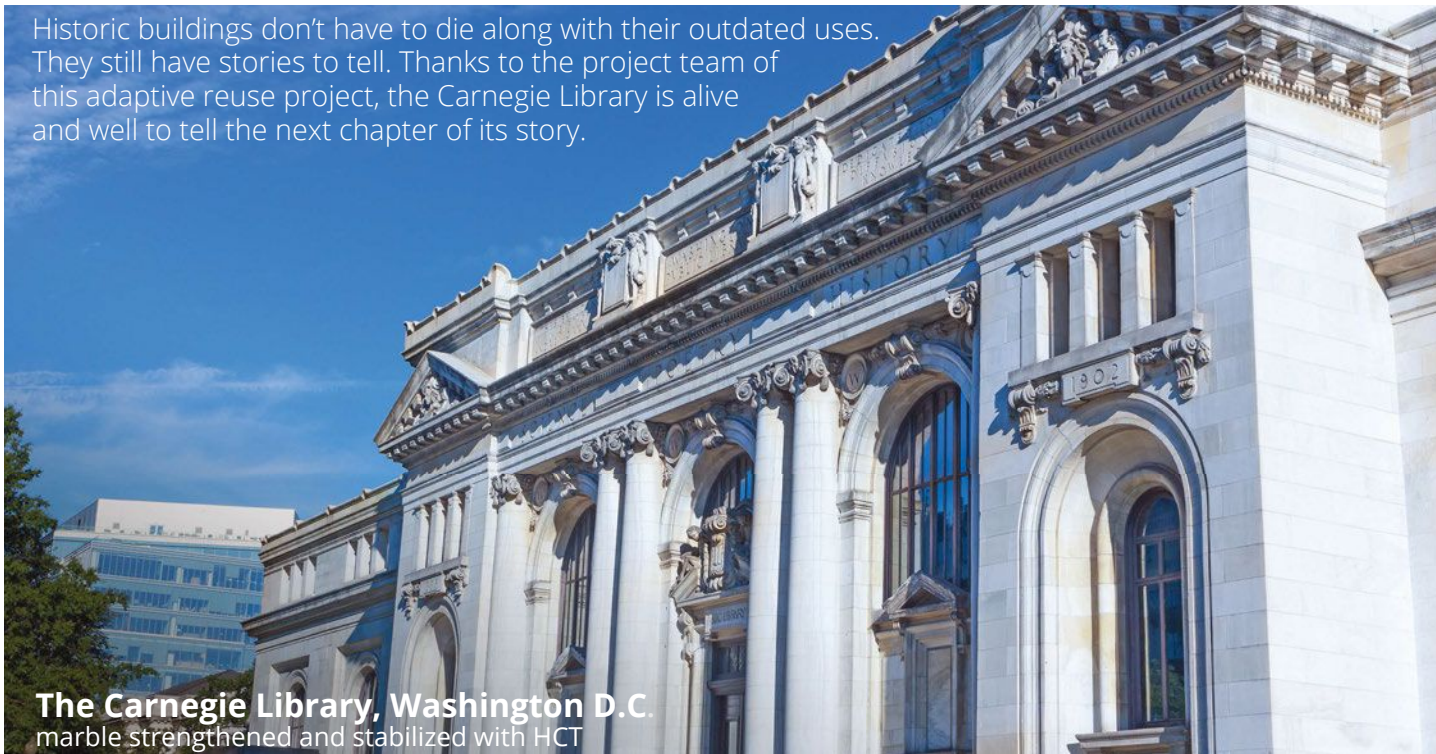
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Historic buildings don't have to die along with their outdated uses. They still have stories to tell. Thanks to the project team of this adaptive reuse project, the Carnegie Library is alive and well to tell the next chapter of its story.



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THE IMPACT OF ONE LIFE

In the past few years—probably since turning 40—I’ve decided the meaning of my life is the connections I make with other humans. I want to be sure I make a positive impact on others, whether I make a friend for a reason, a season or a lifetime, as they say. COVID only underscored this feeling more deeply.

In June my husband Bart and I went on a trip that was the very definition of this mantra for me. We traveled to New Jersey to celebrate the life of Dan Burke, *retrofit*’s sales extraordinaire who unexpectedly passed in December 2020. (Read more about Dan in my January-February “Point of View”, page 12, or www.retrofitmagazine.com/the-incomparable-dan-burke.) Dan had invited me to visit his home on the Jersey Shore many times, but I never made it a priority and then it was too late. I felt I owed it to Dan to make this trip. Dan’s friends were as wonderful as he was and so welcoming to Bart and me. In fact, I felt as though I had known many of them for years. We also met one of Dan’s brothers, and his mannerisms and storytelling trait reminded me so much of Dan. It was almost like Dan was with us. And then there were the unexplained phenomena . . .

Our first day on the Jersey Shore, Bart and I took three Lyft rides. In each one, the Lyft GPS failed. One driver decided to use his personal cell phone to navigate to our destination but its battery suddenly died. I had to use my cell phone to direct our drivers in all three rides. Bart asked two of the drivers if Lyft was having trouble with its system. Both drivers said it had only occurred when we got into their cars. They had each dropped off passengers just before us and hadn’t had an issue with their Lyft-provided GPS.

In addition to several eerie technology-related occurrences, there were strangers who inexplicably showed up just when we needed them. My husband is not the most patient flier so after experiencing several flight delays on our way to New Jersey, he was a bit growly and adamant we were never flying this particular airline again. Soon after arriving, we struck up a conversation with a gentleman who had just retired from said airline after 35 years. He explained to Bart what occurred with our delays, making my husband much less angry at the airline (and saving the early hours of our trip!).

On our way home, we literally ran to our connection at O’Hare and I told my husband there was no way our checked bag made it onto the plane. When we arrived in Omaha, our bag was one of the first to appear on the carousel. Bart and I looked at each other, and I couldn’t help but exclaim, “Thank you, sweet baby Jesus!” (one of Dan’s catchphrases that will stay with me forever).

Maybe these moments were coincidences, but what really matters is that I felt Dan with us, as though he was making sure we were comfortable and having a good time in the place he so dearly loved. Now that we’re home, the memories of our trip and Dan’s wonderful friends will last a lifetime. Not only did I witness the impact Dan made on others in his life and how dearly missed he is, but I also saw what a positive impact you can make on someone, even when meeting them for a few moments, as in the case of the airline retiree.

After COVID separated all of us from each other, I cannot think of a better way to lead my life than to be a positive influence on others whether in the short or long term.

CHRISTINA KOCH

Associate Publisher/Editorial Director
retrofit

TAKE A PEEK INSIDE OUR EDITOR’S HOUSE

Like millions of Americans stuck at home during COVID-19, Editorial Director Christina Koch and her husband were motivated to improve their home. Read about their kitchen remodel, which began in November 2020 and hopefully—by the time this issue reaches you—is complete. Read the blog series at www.retrofitmagazine.com/category/blog.



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Rikki Landini is co-founder and managing director of Landini Associates, a multidisciplinary design and brand consultancy working globally from its Sydney base. Since 1993, Landini Associates has created and evolved retail brands, includ-

ing McDonalds, Aldi, Glassons and Coles. In "Business", page 18, Landini discusses how retailers, investing in fresh in-person experiences, can attract new customers, enhance loyalty and boost in-store sales while multiplying their online profits.



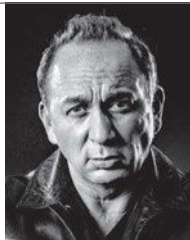
Brooks Gentleman has more than 25 years of window experience and is co-owner of Re-View Windows, a full-service historic window company. In "Component", page 48, Gentleman highlights the window

restoration at the John Sevier State Office Building in Nashville, Tenn. In an effort to upgrade the energy efficiency of the original steel windows, Re-View Windows glazed them with vacuum insulated glass (VIG).



Vicki Worden is the president and CEO of the Green Building Initiative, a non-profit organization dedicated to making buildings healthy places to live and work while reducing their impacts on the environment. In "Business", page 22, Worden

outlines the Green Globes for Existing Buildings 2021 certification program, which exists to guide portfolio owners and facility engineers to improve the operational performance of their existing building stock.



Francisco Gonzalez Pulido is founder and principal of FGP Atelier, an international architecture and design firm. In "Transformation", page 52, Pulido writes about Starring by Ted Gibson, a Los Angeles salon that utilizes smart home devices to provide clients

with a unique experience within a personal pod. Powered by Alexa, through a partnership with Amazon, clients can choose lighting and music preferences, as well as buy product to be delivered to their home later the same day.



An expert in historic preservation and adaptive reuse, **Jennie Gwin** is a principal of Beyer Blinder Belle Architects & Planners LLP and served as project architect in the restoration of the Carnegie Library in Washington, D.C., which now houses an Apple Store. Gwin writes how a light and selective touch was

applied in upgrading the Carnegie Library for contemporary use in our "Cover Story", page 26.



Erin Conrad is the community engagement lead for Lilly Architects, a Tulsa, Okla.-based firm specializing in historic renovation and adaptive reuse. Conrad writes about the firm's adaptive reuse of the 72,000-square-foot Archer warehouse building, which was

built in the 1920s during Tulsa's oil industry boom. Lilly Architects has transformed the building for 14 different tenants, including the Tulsa Artist Fellowship, a bookstore, yoga studio and jazz club. Read about the project in "Transformation", page 56.



As executive director of the Attachments Energy Rating Council (AERC) and Window Covering Manufacturers Association, **Ralph Vasami**, Esq., is actively involved in leading organizational efforts to modify and enhance national building codes in line with public safety, environmental and manufacturer standards. In "Component", page 42,

Vasami writes about AERC's rating and certification program that provides the industry with credible data about the energy performance of commercial secondary windows.



Howard M. Hirsch, AIA, LEED AP, founder and president of Hirsch MPG LLC, writes in "Historic", page 62, about one of the few remaining buildings to survive the Great Chicago Fire of 1871. Built in 1865, the 36,800-square-foot Italianate loft has been

retrofitted into unique corporate offices with an industrial loft flare.

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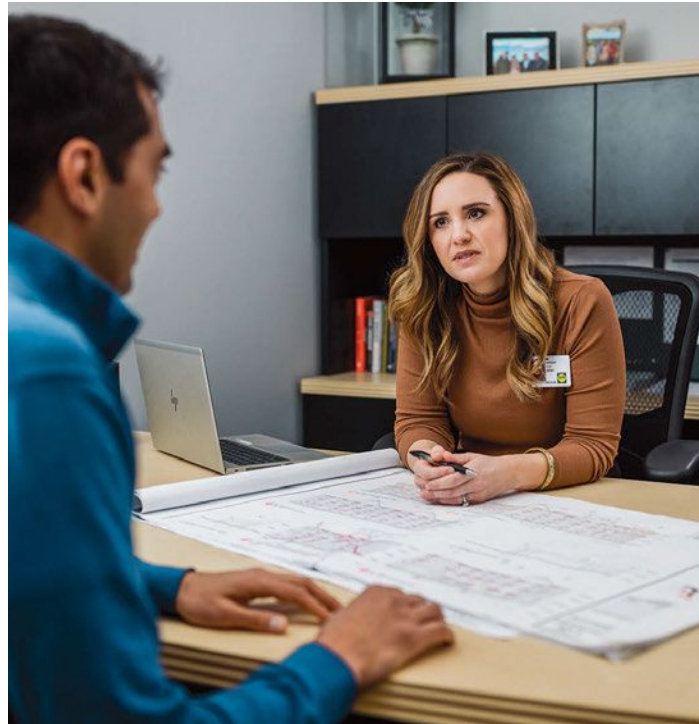
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THE SHOPPING EXPERIENCE

In-Store Design Reinventions Transform Retailers' Fortunes



Amid fears of a brick-and-mortar decline and the push for customer attention and increased sales, many retailers are directing their design efforts into shaping the look and feel of online platforms to mitigate those concerns. But the smartest brands recognize that it's a mistake to neglect the physical shopping environment. After all, more than 85 percent of total U.S. retail sales dollars were spent in person, even throughout the pandemic. (Read more about this statistic from the U.S. Department of Commerce at bit.ly/2TDlyH9.) In fact, the most agile and successful retailers are investing in fresh in-person experiences that can attract new customers, enhance loyalty and return rates, and boost in-store sales while multiplying their online profits, too.

Through bold transformations of

WRITTEN BY | RIKKI LANDINI

materials, environmental graphics, and the introduction of radical yet logical store layouts and concepts, design teams can help large chains and boutiques reinvent how customers experience brick-and-mortar retail for encounters that outshine what they'd experience elsewhere, in-store as well as on the Internet.

A Smart IRL Presence that Boosts URL Profits

Many direct-to-consumer e-commerce brands have found that a physical presence helps drive online sales by enhancing customer engagement. Temporary pop-up trials are a common first step, and their success can lead to a permanent storefront.

A large space with extensive inventory may not be needed to fill this role and, in fact, a smaller footprint with a sharp, psychographically focused design is often hugely effective.

The men's lifestyle company GentSac, for example, offers a compelling case study. As a customizable subscription service selling pared-down kits of grooming essentials, the brand's value proposition lies in its mixture of high quality and thoughtful curation, streamlining consumers' navigation through a crowded market. GentSac's founders felt that a brick-and-mortar presence would help potential customers better engage with the product, a vision they hoped to translate into a permanent storefront following the success of a pop-up.

To realize this potential, Landini Associates was engaged to transform a tight



By challenging the normal approach to layout and materiality for a value-based fashion storefront, Landini Associates' retail reinvention for Glassons—now being rolled out across the company's entire portfolio of stores—dramatically improved brand perception among customers and mall landlords.



PHOTOS: SHARRIN REES



PHOTOS: ROSS HONEYSETT



GentSac wanted customers to engage directly with the brand and seek advice in-store, try products before they subscribe to the brand's service and buy immediate essentials. Landini Associates worked with GentSac leadership to develop a deep understanding of the brand mission and ethos before designing its store.



PHOTOS: COURTESY PRIMERA

In South Korea, eco-skincare brand Primera's story is told and made physical through the use of natural materials, drawings, photography and in-store herb gardens that juxtapose props of test tubes and scientific apparatus expressing Primera's extensive scientific research.

shopping center space into a 161-square-foot flagship for GentSac, with the goal of allowing customers to engage directly with the brand and seek advice in-store, try products before they subscribe to the brand's service or simply buy immediate essentials. It was critical for the design team to work with GentSac leadership and develop a deep understanding of the brand mission and ethos. The resulting design is thoughtfully minimalist and calming with a material palette of light gray concrete walls offset by simple timber shelves that allow the product to remain the focus.

Wall-mounted wooden hooks display the range of curated product "sacs," and a corner testing station offers an opportunity to try products. The storefront features black steel and glass sliding doors that allow the entire store to open, creating an inviting atmosphere that reflects the brand personality and attracts customers inside. More a gallery space than a skincare store, the GentSac space has generated significant foot and online traffic for the

brand and, more to the point, its founders have seen a nearly 60 percent online sales increase since opening.

Designers Reinvent Normal to Shift Consumer Perceptions

In the same way that a creative and brand-responsive design can help connect the dots between in-person experiences and online sales, this design approach can also help retailers reinvent themselves and radically shift public perception in a positive way. Consider Landini Associates' recent re-design for Glassons, a New Zealand-based fashion retailer facing global competition from stores, such as H&M and Zara. The project brief from Glassons leadership to Landini Associates was to better present the in-store product, making collections more intelligible and heightening customers' perceived quality of the great-value merchandise.

As with GentSac, Landini Associates' design solution involved a deliberate, unconventional approach to materiality and

layout. In this instance, the design team understood that reinventing the brand meant reinventing expectations of what a clothes-shopping experience should look and feel like. Taking inspiration from the layout of supermarket aisles, the bold design removes all products from the walls and places them in wardrobe-like display units that coherently frame individual collections and allow them to be easily styled together—a marked contrast to the usual practice of cramming in as much product as possible into a physically and visually crowded interior environment.

The Glassons material palette includes light oak, concrete and mirrors, resulting in a fresh interior space that feels expansive and urban, along with other important benefits. In fact, Landini Associates found that presenting merchandise in this seemingly pared-down way created space for 50 percent more product on the sales floor. Another smart design solution that contributes to the clean aesthetic and enhances the sense of spaciousness is setting mirror-concealed stock rooms around the perimeter of the store. From a shopper's perspective, the result is an experience that is at the same time more chic and more intimate.

By challenging the normal approach to layout and materiality for a value-based fashion storefront, Landini Associates' retail reinvention for Glassons—now being rolled out across the company's entire portfolio of stores—dramatically improved brand perception and not just among customers. Leadership reports that mall landlords who once turned Glassons away are now seeking out the brand, offering prime high-traffic locations within their shopping centers.

Telling Brand Stories Through Design

Storytelling is another powerful method for defining and selling a brand, and design teams can help retailers reimagine their in-store experience to tell their story and distinguish themselves from the competition. Doing so requires a holistic approach in which every element of the physical space—from signage to layout and store architecture—becomes a narrative tool.

When the popular skincare brand Burt's Bees planned for an expansion in Asia,



Landini Associates reinvented its retail format for an approachable yet premium position emphasizing sustainability and a philosophy that everything should be for the greater good. From a design perspective, this meant storefront spaces that express brand principles: a simple, frugal world that is at one with nature. Inside the store, a large image of founder Burt Shavitz in nature with his bees sets the brand's story, along with an ever-popular collection of products from the 1980s original range.

Natural materials capture the brand's essence and golden lighting recreates the magic of being inside a beehive, inviting warmth and encouraging customers to dwell longer in-store, discovering Burt's Bees full offerings. Adding to the in-store experience is the dramatic honey wall, which is made of replicated honey jars, for an inviting and friendly atmosphere that aligns with the brand personality, defined as passionate and cheerful. In tandem with the interiors, Landini Associates redesigned the brand's graphics and communications: Signage, ticketing and information graphics are often embossed with a playful, iconic bee, all of which create a consistent brand message that reinforces the position of Burt's Bees as a standout choice in a crowded market.

Similarly, for the South Korean eco-skincare brand Primera, Landini Associates reinvented the retail flagship store in Myeong-dong, Seoul, with a modern storytelling of the brand's highly successful "Botanist Atelier" concept. This concept—a

Inside Burt's Bees' Asia stores, a large image of founder Burt Shavitz in nature with his bees sets the brand's story, along with an ever-popular collection of products from the 1980s original range.

thematic combination of nature and science—was translated into the redesigned space with a newly refined experience that appeals to an increasingly sophisticated audience. The design approach enables a narrative celebrating the science behind the natural efficacy of Primera's products. The brand's story is told and made physical through the use of natural materials, drawings, photography and in-store herb gardens that juxtapose props of test tubes and scientific apparatus expressing Primera's extensive scientific research. This kind of comprehensive and narrative-driven design approach helps retailers generate a coherent language for customers, enabling them to feel the brand identity through the physical environment.

Ultimately, finding the best solution for a retail client depends on the client's attentiveness to customer needs and an understanding of how current in-store models are enhancing or detracting from the consumer experience. For creative and forward-thinking retailers who understand the power of design to impact business, a transformed in-person shopping environment can drive loyalty and sales, both on-the-ground and online. 

GREEN GLOBES for EXISTING BUILDINGS

Three-in-one Certification for Buildings and Portfolios Supports Environmental, Social and Governance Benchmarking

WRITTEN BY | VICKI WORDEN

Existing multifamily and commercial buildings account for approximately 29 percent of total U.S. greenhouse-gas emissions, according to the Center for Climate and Energy Solutions. (Read more at bit.ly/3yGHtEt.) There is tremendous opportunity to retrofit and renovate our existing building stock to improve energy, water, waste, and health and wellness key performance indicators while working toward global carbon emissions reduction goals.

Even if a building was designed and constructed with a low-impact intention, continuous monitoring and periodic updates are essential for establishing a baseline and improving performance. The Green Building Initiative's (GBI's) Green Globes for Existing Buildings (EB) 2021 certification program exists to guide portfolio owners and facility engineers to improve the operational performance of their existing building stock.

Green Globes EB 2021

In April, GBI released Green Globes EB 2021, a three-in-one benchmarking and certification program that evaluates the



environmental sustainability, health and wellness, and resilience preparedness of an individual building or of an entire portfolio. Green Globes EB 2021 combines advances in standards and technology with lessons learned from decades of improving buildings and reducing climate impacts.

As an added bonus, Green Globes is a Tier 1 certification under GRESB, meaning Green Globes-certified buildings receive full credit under GRESB. GRESB is the global benchmarking system used by portfolio owners for measuring and ranking

themselves versus peers on environmental, social and governance key performance indicators.

GBI's Green Globes EB 2021 program uses applicable content from ANSI/GBI 01-2019, as well as dozens of other ASHRAE, ANSI and other consensus standards, to set benchmarks and baselines for measuring and improving building performance. GBI started working on its update to this important rating and certification system three years ago with a materiality analysis conducted by a European sustainability firm. It built the updates around that analysis and then benchmarked the beta version, Green Globes 2019, against the U.S. federal government's Guiding Principles and leading green building and health and wellness certification systems in North America.

Finally, a team of contributing consultants that included some of the leading sustainability consulting firms for existing portfolios, including RE Tech Advisors, weighed in with final recommendations to form the final version of Green Globes EB 2021.

(continues on page 24)

PROVIDE PUBLIC COMMENT

Fostering respectful and inclusive communities where due process, transparency and consensus are prioritized is a guiding tenet for the Green Building Initiative. To that end, GBI's rating systems undergo rigorous review, and public comment periods are a part of how the organization ensures its systems reflect the latest science, research and market needs. GBI regularly will invite public comment on Green Globes for Existing Buildings 2021, which has also been released as a draft standard, titled BSR/GBI 02-202x: Green Globes Assessment Protocol for Existing Buildings. The draft standard's first public comment period ended July 5 and a schedule for future public comment opportunities can be found at www.thegbi.org/ANSI.

Time To Retrofit Your Sample Shelf

Ultra-thin phenolic insulation board for almost any application, especially where space is a concern.

Kooltherm®
Phenolic Insulation Board

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13	Polyisocyanurate
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8	Mineral Wool

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*of all foam plastic insulations



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RE Tech Advisors noted: "In doing a deep dive into Green Globes for Existing Buildings ... the RE Tech Advisors team is very impressed with how the certification maintains a level of rigor while remaining practical and user-friendly. We feel it covers all the important aspects needed for a credible green building certification, including health and wellness and resilience, while having the added bonus of support and guidance from the assigned Green Globes Assessors to help ensure success. We will be happy to recommend Green Globes for Existing Buildings to our clients, particularly those who are large portfolio owners who can use this as a one-stop-shop for benchmarking portfolio performance in addition to certification."



GREEN GLOBES is a Tier 1 certification under GRESB, meaning Green Globes-certified buildings receive full credit under GRESB.

For those seeking added validation of health and wellness benefits through Green Globes certification, GBI has a crosswalk of technical criteria that correlates to the objectives identified within Fitwel, which is an emerging health and wellness certification. Additionally, Green Globes was recently recognized as a pre-approved certification through the WELL Building

SAMPLE PROJECT

Criteria Category	Final Points	Applicable Points	Final Score
Environmental, Social and Governance (ESG) Management	66	105	62.9%
Site	76	90	84.4%
Energy	165	303	54.5%
Water	105	170	61.8%
Materials	92	100	92%
Indoor Environmental Quality	172	197	87.3%
Total	676	965	70.1%

Standard. For those that may be interested in dual certifying their buildings, this crosswalk and recognition creates a more streamlined opportunity.

Six Assessment Areas

Green Globes EB 2021 evaluates criteria from six environmental assessment areas, including Environmental, Social and Governance (ESG) Management; Site; Energy; Water; Materials; and Indoor Environmental Quality that total 1,000 maximum points.

- **ESG MANAGEMENT** addresses operations and maintenance, resilience, and management policies pertaining to promoting ethical social and governance approaches.
- The **SITE** assessment area addresses decontamination and improvement efforts of the immediate existing site when applicable.
- The **ENERGY** assessment area is the most substantial, containing 31 percent of the total points. This area offers project teams three pathways to

decrease carbon emissions and support carbon-neutral buildings. Prescriptive energy measures for envelope, lighting and various systems, as well as commissioning, maintenance and management practices and renewable/alternative energy also are evaluated.

- The **WATER** assessment area guides water efficiency through strategies that include reducing consumption, increasing water recycling and using alternative sources of water. There are multiple pathways for assessing water performance and outdoor water consumption to provide flexibility and incentivize monitoring and consumption reduction.
- The **MATERIALS** section assesses cycle renovations, or the policies in place to encourage regular evaluation of product maintenance and replacement needs, as well as material composition, transparency and other procurement best practices. This area provides points for policies that reflect a priority for

THE GREEN BUILDING INITIATIVE



GBI is a non-profit organization and American National Standards Institute- (ANSI-) Accredited Standards Developer dedicated to improving building performance and reducing climate impacts. Founded in 2004, the organization is the global provider of the Green Globes and federal Guiding Principles Compliance building certification and assessment programs. GBI also issues professional credentials, including the Green Globes Professional (GGP) and Guiding Principles Compliance Professional (GPCP). To learn more about opportunities to become involved with GBI, contact info@thegbi.org or visit the GBI website, www.thegbi.org.

procurement practices that support such evaluation and use of EPDs, HPDs and third-party certifications, as well as for specifying products that are reused or contain recycled material. Collection, storage and handling of recyclable materials and electronics, as well as composting and other efforts to minimize waste also are given points.

■ Indoor Environmental Quality (IEQ)

evaluates IEQ systems—measures and management, filtration systems, pollutant control, integrated pest management, cleaning and disinfection, hazard prevention, lighting, comfort, health and wellness, thermal comfort and acoustical comfort—to ensure the building provides a comfortable and productive environment for tenants to live, work or recreate. Building owners are also rewarded for encouraging safe and healthy practices, such as active workstations, use of stairs, and providing nutritional food and beverage options.

The user-friendly Green Globes software allows project teams to use criteria as a guide to strategically implement and be rewarded for sustainable operations while providing baseline data for evaluating future capital expenditures. The software allows for performance tracking of energy, water, waste and emissions, which encourages building owners and facility managers to monitor progress. The built-in comparison reporting and questionnaire cloning features are ideal for portfolio owners managing multiple facilities.

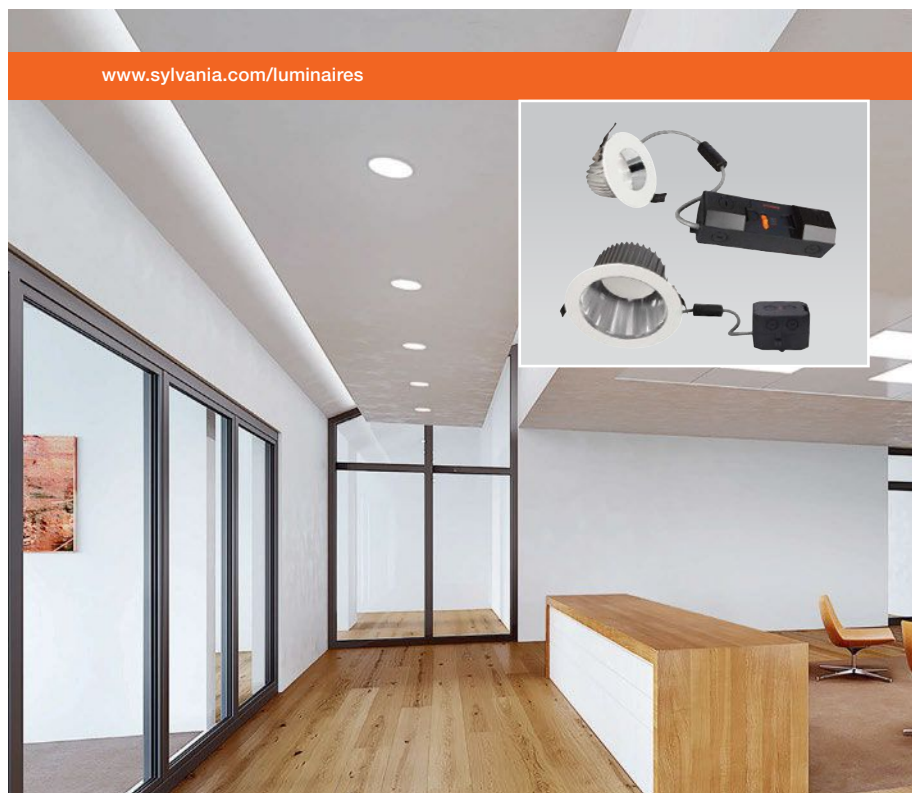
In summary, GBI makes aspirational goals achievable through user-friendly assessment tools, like Green Globes EB 2021, that are built upon comprehensive standards and supported by outstanding staff and expert assessors. As part of a non-profit community, GBI's Green Globes Assessors view themselves as educators and coaches first, supporting performance improvement of all buildings. In the end, GBI's overall process from start to finish delivers a high-value assessment plus a time- and cost-effective certification option for portfolio owners seeking to validate their portfolio achievements with a program that ties into their ESG annual reporting objectives. 



ACCESS GREEN GLOBES FOR EXISTING BUILDINGS 2021

If you'd like to begin using the Green Building Initiative's Green Globes EB 2021, you can access a free trial, as well as download the complimentary technical manual and view recorded webinars about the certification program at GBI's website, www.thegbi.org.

www.sylvania.com/luminaires



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A UNIVERSITY

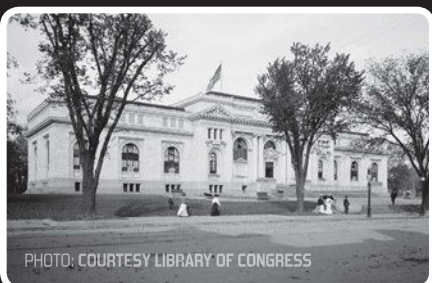


PHOTO: COURTESY LIBRARY OF CONGRESS

WASHINGTON, D.C.'S CARNEGIE LIBRARY CONTINUES CONNECTING PEOPLE AND INFORMATION AS AN **APPLE STORE**

for the PEOPLE



THE PROJECT TEAM'S TOP PRIORITIES WERE THE CAREFUL **PRESERVATION OF THE HISTORIC FAÇADES**, A REASSERTION OF THE INTERIOR'S ORIGINAL FOOTPRINT, RESTORATION OF THE BUILDING'S EARLY 20TH-CENTURY DETAILING, AND INTEGRATING CONTEMPORARY UPGRADES WHERE NECESSARY AND APPROPRIATE.

PHOTOS: COURTESY APPLE INC. unless otherwise noted

This summer marks the second anniversary of the reopening of the restored and repurposed Carnegie Library at Mount Vernon Square in Washington, D.C. The restoration of this remarkable 118-year-old building has uplifted cultural and architectural history, facilitated the site's renewed role in connecting individuals and information, and stimulated the local economy.

WRITTEN BY | **JENNIE GWIN**

In 2016, after a nearly 50-year period of inconsistent use and maintenance, a promising new opportunity arose for the Carnegie Library. Events DC, the authority that manages the building on behalf of the district, along with many other cultural and recreational facilities, announced that it had entered into negotiations with Apple

Inc. The proposal centered on the opening of a flagship store, the Fortune 500 retailer's second retail location in the district with an aesthetic that embraced the building's history and Beaux-Arts style.

HISTORY OF THE BUILDING

Since 1903, Washington's Carnegie Library building has anchored Mount Vernon Square, one of the original reservations in



PHOTO: COURTESY GRUNLEY CONSTRUCTION CO. INC.



AFTER



BEFORE

PHOTO: BBB

↑ VISITORS TO THE APPLE STORE OFTEN PERUSE THE DC HISTORY CENTER, ALSO LOCATED WITHIN THE CARNEGIE LIBRARY. THE FACILITY'S IMPROVEMENTS REACTIVATED THE ADJACENT GREEN SPACE AT MOUNT VERNON SQUARE, AS WELL.



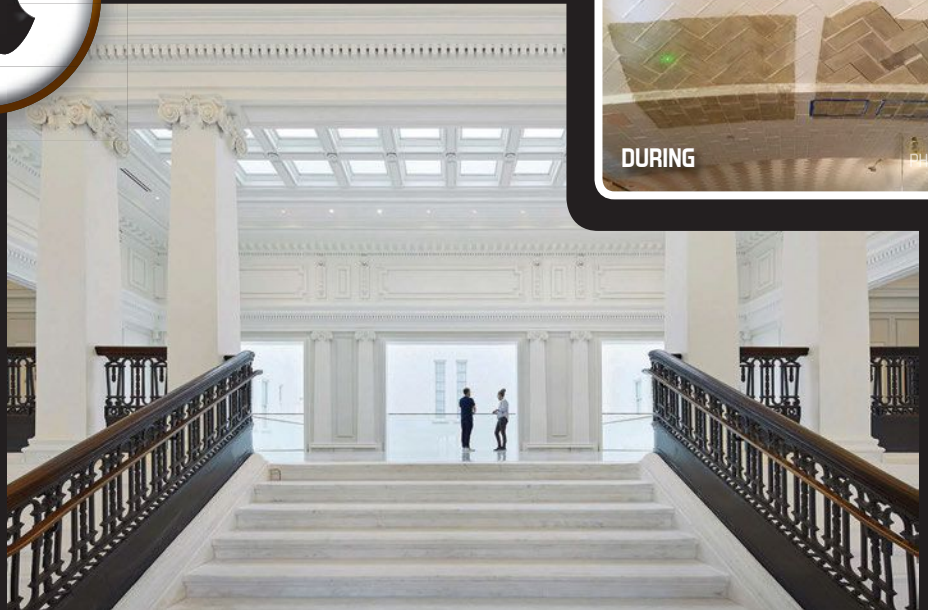
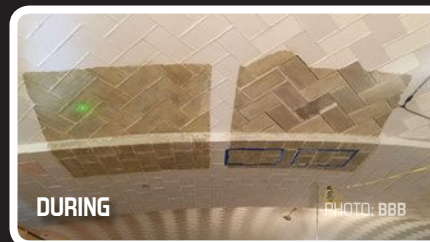
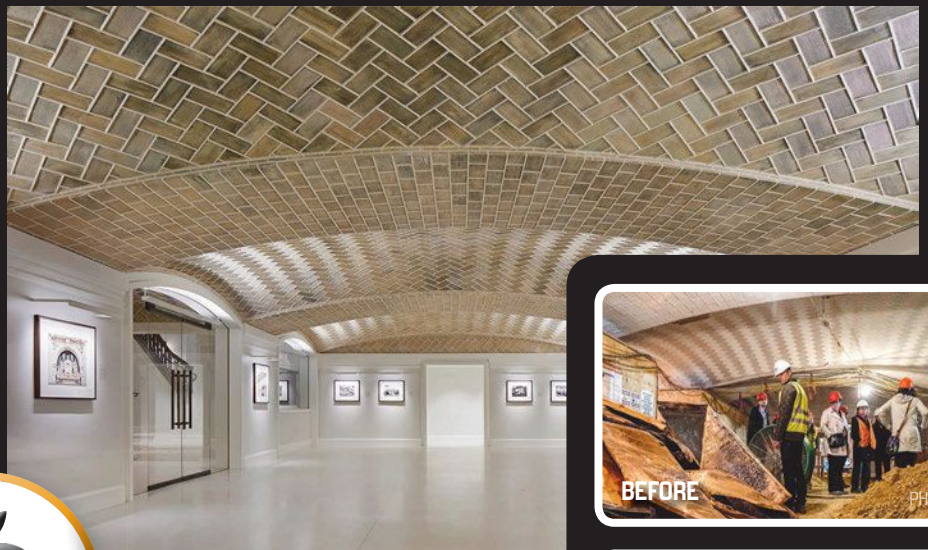
the George Washington-commissioned plan for the district by Pierre Charles L'Enfant. The building was the first Andrew Carnegie-funded library in Washington and is a significant example among the country's thousands of Carnegie Libraries. It also has the distinction of being Washington's first desegregated public building.

When approaching the Carnegie Library at Mount Vernon Square, visitors cannot miss these words: "A University for the People." In keeping with its granite-carved promise, the building served as Washington's Central Public Library for decades. In 1970, the district relocated the overcrowded central branch, and the site entered a prolonged period of underuse and disrepair. Before the newly restored building reopened in 2019, the Carnegie Library remained partially or wholly inaccessible to historians and citizen scholars. Among other corresponding impacts, public use of Mount Vernon Square's adjacent green space declined.

The public's relative lack of building access was not for want of trying. Most notably, in 1999, Congress granted a 99-year lease to the Historical Society of Washington, D.C., and provided funding in support of the City Museum, a new urban history museum. The Carnegie Library underwent significant changes during a related renovation, which included the replacement of a central skylight with infill slab and the construction of a new, higher-profile hipped roof. The City Museum closed in 2004, but parts of the building continued to serve as the base of operations for the



➔ ON THE LOWER LEVEL, THE BEAUTY OF A GUASTAVINO-TILED CEILING HAD BEEN OBSCURED BY PAINT DURING A PREVIOUS RENOVATION. CONTEMPORARY LIGHTING FIXTURES ALSO HAD BEEN ADDED TO THE VAULTED CEILINGS, DAMAGING MANY OF THE HISTORIC TILES. A PAINSTAKING PROCESS OF PAINT REMOVAL AND REPOINTING FOLLOWED, ENSURING THE ARCHITECTURAL INTEGRITY OF THE SPACE.





WHEN WEATHER PERMITS, PASSIVE VENTILATION IS POSSIBLE, THANKS TO THE INSTALLATION OF OPERABLE WINDOWS AND THE USE OF LOUVERS AT THE TOP OF THE SKYLIT ATRIUM.

Historical Society, which has since rebranded as the DC History Center.

DETAILS OF THE RESTORATION

While the proposal for the library building to become an Apple Store had immense potential, there were notable challenges to overcome. The project required review and approval by the National Capital Planning Commission, Commission of Fine Arts and Washington's Historic Preservation Review Board, as well as the District Department of Transportation, Department of Energy and Environment, and Department of Buildings.

In addition to improvements required to the interior, the exterior of the building was in need of a full restoration, accessi-

bility upgrades and new district-required onsite stormwater management. Furthermore, the construction would temporarily displace, and then relocate, the DC History Center. Three years later, Apple Carnegie Library opened to the public. Because of Apple's interest and subsequent stewardship of the historic site, the Carnegie Library has received its most extensive historic restoration to date, much needed accessibility improvements were made to the exterior, and Mount Vernon Square is once again a destination park in Washington.

To bring this project to fruition, a project team led by Beyer Blinder Belle Architects & Planners conducted a meticulous restoration of the Carnegie Library's

exterior and interior. The project team's top priorities were the careful preservation of the historic façades, a reassertion of the interior's original footprint, restoration of the building's early 20th-century detailing, and integrating contemporary upgrades where necessary and appropriate.

The exterior's heavily stained Vermont marble was cleaned to its former white brilliance through a low-pressure vortex micro-abrasive media process. The building's marble details were understandably weathered by time, and their condition was respected and largely left intact. In select locations showing severe deterioration, the project team removed individual marble elements and replaced them with hand-

carved replicas. The building's larger sculptural components were repaired using a stone consolidation technique. The Milford pink granite base was also cleaned with a gentle micro-abrasive cleaning process.

The non-original hipped roof with clerestory, which had been installed during the City Museum renovation, was removed. The building's copper roof was restored, including reinstallation of the copper-capped chimneys, thereby reinstating the building's historic and highly visible roofline. As part of the roof's revitalization, a new flat skylight was added.

Inside the Carnegie Library, the project team removed several non-original components, including a tiered theater, the elevated map floor, and infilled offices and gallery space, which were preventing daylight from drawing into the center of the building. The original grand staircase benefited from cleaning and repainting of its cast-iron balustrade, the removal of glue stains left by a previously installed carpet runner, the honing of its marble treads and risers, and a new bronze handrail to improve accessibility. On the lower level, the project team conducted a structural intervention, returning the staircase to its historic orientation.

Elsewhere on the lower level, the beauty of a Guastavino-tiled ceiling had been obscured by paint during a previous renovation. In addition, contemporary lighting fixtures had been added to the vaulted ceilings, damaging many of the historic tiles. A painstaking process of paint removal and repointing followed, ensuring the architectural integrity of the space, which today houses a gallery of historic photographs and documents about the building.

Throughout the project, the team used archival photographs and original construction blueprints to carefully recreate original plaster cornices, window surrounds and pilasters that had been removed in previous renovations. On the second floor, the project team restored three original plaster laylights, as well as a terrazzo floor with a mosaic tile border. Windows that had been fixed in place during previous renovations were once again made operable, original wood windows were restored and most of the glazing was

retrofitted for greater energy efficiency.

CONTEMPORARY TOUCHES

A light and selective touch was applied in upgrading the Carnegie Library for contemporary use. The building's grand entry plaza, which faces south onto K Street, was re-sloped to improve physical accessibility. The project team also replaced an existing non-historic northern entrance to the building on Mount Vernon Place, which creates a more inviting presence for visitors arriving from the nearby Walter E. Washington Convention Center, Metro Station and Shaw District. In addition, new exterior lighting was added, allowing for all four of the building's restored façades to be showcased to the public.

While largely invisible to visitors of the Carnegie Library, all building systems were upgraded or newly installed in the structure's hidden chases, existing shafts and other vertical pathways. Custom linear diffusers were required and were discreetly incorporated into the Apple display fixtures and historic wall. When weather permits, passive ventilation is possible, thanks to the installation of operable windows and the use of louvers at the top of the skylit atrium. The project team also worked with Apple to integrate Apple retail fixtures into the restored interiors.

Prior to the restoration, the DC History Center had faced regular threats to its archives and operations because of systemic water infiltration. Furthermore, its research library lacked visibility by the public. The project improvements included upgrades to both public spaces and archival storage spaces for the DC History Center. Coupled with the serendipity of visitors arriving for retail purposes and staying to explore the non-profit's galleries, these improvements have helped the DC History Center achieve a significant increase in foot traffic.

Today, the Carnegie Library honors Ackerman & Ross's original design and celebrates Andrew Carnegie's vision for the building: a center of knowledge for all. The community's relationship with the site, including Mount Vernon Square's adjacent green space, has been reenergized through the restoration and overall reactivation of the historic Carnegie Library. 



Retrofit Team

CLIENT // Apple Inc., www.apple.com

ARCHITECTURE AND HISTORIC PRESERVATION // Beyer Blinder Belle Architects & Planners LLP, www.beyerblinderbelle.com

GENERAL CONTRACTOR // Grunley Construction Co. Inc., www.grunley.com

MASONRY CONSERVATION SPECIALIST // EverGreene Architectural Arts, evergreene.com

MASONRY RESTORATION CONTRACTOR // Lorton Stone LLC, www.lortonstone.com

LIGHTING // Claude R. Engle Lighting Consultant, www.crengle.com

STRUCTURAL ENGINEER // Silman, www.silman.com

MEP ENGINEER // TES Engineering, www.tesengineering.com

CIVIL ENGINEER // Gordon, www.gordon.us.com



Materials

CLEANING SYSTEM // ROTEC VORTEX by Quintek, www.quintek.net

SKYLIGHT, GLASS STOREFRONTS AND GLAZED BALUSTRADES // Gartner, josef-gartner.permasteelisagroup.com

STONE CONSOLIDATION // Prosoco, prosoco.com

WOOD WINDOW RESTORATION // The Craftsmen Group Inc., www.thecraftsmengroup.com

ACOUSTICAL PLASTER FINISH // Even Better Silk by Fellert, www.fellert.com

GUASTAVINO TILE RESTORATION // ATS Studios, www.atsstudios.com

EXTERIOR FAÇADE UPLIGHTING // ERCO, www.erco.com

TERRAZZO FLOORING // Roman Mosaic & Tile Co., www.romanmosaic.com

DOCKSIDE CANNABIS | Seattle

dockside cannabis





» RETROFIT TEAM

ARCHITECT: Graham Baba Architects, www.grahambabaarchitects.com

GENERAL CONTRACTOR: Bennion Construction and Co.,
www.bennionconstruction.com

STRUCTURAL ENGINEER: Harriott Valentine Engineers Inc.,
www.harriottvalentine.com

FURNITURE DESIGNER: Artifex Northwest, www.artifexnw.com

» MATERIALS

The project transforms an existing, non-descript 1-story building into a 1,930-square-foot shop that retains the footprint and height of the original structure to preserve the neighborhood scale. A new wood trellis and deck define the entry and provide a venue for outdoor gatherings and events.

The exterior—composed of dark metal siding and roofing with corten metal accents—creates a visually quiet presence on a busy thoroughfare. Ample glazing at the entry and street façade produces an inviting level of transparency, reinforcing the image of cannabis as a mainstream product.

Inside, the space is bright and airy, courtesy of light-stained maple and white oak, plywood cabinetry and display cases, as well as a skylight inserted into the existing roof. Daylight filters through exposed scissor trusses overhead while polished concrete floors provide a clean, no-fuss surface below. Wood shelving and tables feature steel accents and provide a minimalist contemporary aesthetic for products housed under glass cloches and in vitrines, a display method that enables customers to peruse the merchandise while still complying with strict, no-touch city regulations.

METAL SIDING MANUFACTURER: Nu-Ray Metals, www.nuraymetals.com

» THE RETROFIT

When Dockside Cannabis, a Seattle-based chain of recreational cannabis shops, sought to expand into a rapidly changing neighborhood, the challenge was how to define the brand experience within a growing and shifting cannabis marketplace. The solution was to redefine the typical shopping experience through the creation of a sophisticated and inviting environment—a venue that offers a unique visual identity paired with an educationally focused customer experience.

Products are stored in efficient pull-out cabinets that can be stocked directly from the back room. When fully closed, these tall, vertical cabinets resemble a wood-paneled wall and serve as a simple backdrop for the sales counter. Sales staff members assist customers on the sales floor as they browse the products rather than from behind the counter, which is only used for the final transaction. This approach fosters a comfortable and informative conversation by removing the pressure to quickly decide and make a purchase while other customers are waiting in line.

Express purchases, ordered online in advance, can be quickly picked up at a table located just inside the entry. Medical consultations take place at a small desk tucked into a private corner removed from the main sales space.

One major challenge was inventing a retail environment for a new product. At the time of this project's design, Washington state had only recently legalized recreational marijuana, and few other states had done so. Therefore, the design team was tasked with shaping a retail experience with few precedents and unique program requirements. The design team used this challenge as an opportunity to forge a new programmatic and visual identity for the Dockside shopping experience.

Additionally, the store design had to create a unique visual brand in a flooded market while also appealing to a wider audience. Spacious volumes; ample daylighting; and a clean material palette of wood, steel, and concrete foster a uniquely refined minimalism and welcoming atmosphere.

By eliminating the clutter and the bottleneck of a traditional cannabis shop sales counter, customers can enjoy a personalized, leisurely browsing experience in a tranquil, visually calming environment. The fresh, natural material palette and bright, transparent space provide just the right positive image to this newly legal sector of products.

MACY'S

Brooklyn, N.Y.



►► RETROFIT TEAM

ARCHITECT: Perkins Eastman,
www.perkinseastman.com

DEVELOPER: Tishman Speyer, tishmanspeyer.com

GENERAL CONTRACTOR: JRM Construction
Management, www.jrmcm.com

RESTORATION AND WINDOW-REPLACEMENT
CONTRACTOR: Allen Architectural Metals Inc.,
www.allenmetals.com

►► MATERIALS

A refreshed, historic, 4-story façade greets visitors to the redesigned and reopened Macy's department store at 422 Fulton Street in downtown Brooklyn. The 9-story building's top five levels have been converted to Class A offices. Macy's occupies approximately 300,000 square feet of retail space on the lower floors, retaining its street-level prominence, architectural heritage and community connection.

The windows on the second, third and fourth floors were replaced to improve the exterior appearance of the ornate, cast-iron façade. The previous window units had aged through

the decades. Dramatically enhancing the retail façade for shoppers, staff and the community, the new windows present an exterior worthy of the building's legacy. In total, 63 aluminum-framed windows were supplied with panning by Winco Window. All of Winco Window's aluminum material was finished by Linetec in a Key Lime soft green color to complement the historic façade's palette.

Each window's dimensions span approximately 4 by 9 feet, and 15 were manufactured with arched tops. Winco Window's 1450H Series window systems are fixed with offset lites to replicate the historic look of traditional, operable hung units. The systems are standard but were utilized in innovative combinations to meet the historic requirements.

Winco Window's team worked closely with Allen Architectural Metals to provide the window system design, engineering and isometric details to suit the façade system's punched openings. The restored historic façade was reinstalled over a concrete weather wall that is Macy's portion of the building.

The window systems' modern construction meets the Architectural AW-100 Performance Class designation per the North American Fenestration Standard (NAFS). Supporting the windows' performance and durability, Linetec finished the aluminum framing and panning using a 70 percent PVDF resin-based architectural coating. To retain the project's unique color and withstand New York's climate and high-traffic conditions, the windows' painted finishes meet the AAMA 2605 coatings specification for high resistance to corrosion, weathering, pollution, salt spray, humidity and abrasion.

ALUMINUM-FRAMED REPLACEMENT WINDOWS
MANUFACTURER: Winco Window,
wincowindow.com

RESIN-BASED WINDOW COATING PROVIDER:
Key Lime by Linetec, linetec.com

►► THE RETROFIT

Long before becoming Macy's downtown Brooklyn store in 1995, the building was constructed in 1865 when horse-drawn carriages were the



PHOTOS: JEFFREY ROSENBERG PHOTOGRAPHY

primary transportation in New York. It first was the flagship department store of Wechsler & Abraham, forerunner to the better-known Abraham & Straus stores.

The building was designed in the French Second Empire architectural style capped with a mansard roof and clad in a cast-iron façade, consisting of thousands of interconnected pieces. It underwent several renovations and expansions through the decades.

By 2015, the iron cladding remained up to the fourth story and stretched 98-feet wide. More than 1,000 pieces weighing 69 tons were cataloged and shipped to restoration and window replacement specialty contractor Allen Architectural Metals in Alabama. Construction costs for the total five-floor renovation are estimated at \$100 million.

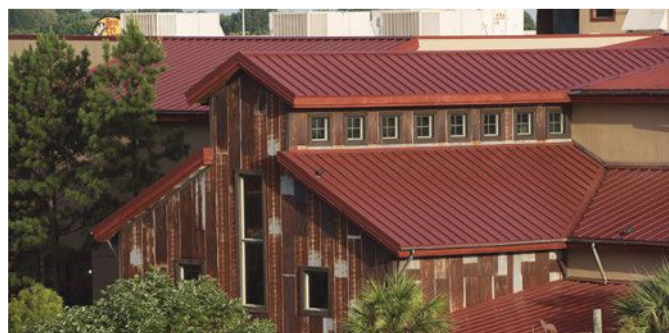
The historic retail destination has grown and developed with the community around it. With the renewed store, Macy's executives said it seeks "to fuse its traditions with Brooklyn's local flavor to create a modern environment of cutting-edge style and hip, urban attitude."



BASS PRO SHOPS | Pearl, Miss.



PHOTOS: HORTONPHOTOINC.COM



►► RETROFIT TEAM

ROOFING CONTRACTOR: E. Cornell Malone Corp., www.ecmalone.com

►► MATERIALS

Bass Pro Shops brands itself as a supplier of performance products designed to endure the great outdoors but, at its Pearl, Miss., store, the roof was falling short of that standard. Although it was barely more than 10 years old, the roof's mix of membrane and metal was already beginning to fail when a severe weather event prompted a reroofing initiative.

"They had a hailstorm come through and they wanted to upgrade," says Roman Malone, president of E. Cornell Malone Corp. In addition to installing a new membrane roof, the project included replacing the existing bare galvanized steel panels with 59,000 square feet of Petersen's Snap-Clad roofing panels Kynar-finished in PAC-CLAD Colonial Red. The panels form the highly visible sloped portions of the roof, along with a canopy over the building's storefront walkway and entrance.

The metal portion of the reroofing effort included removing the failing panels along with the ice and water shield below. The existing plywood decking and insulation remained in good shape. For the roofing pros from E. Cornell Malone, the heavily trafficked surroundings proved a greater challenge than the roof itself.

"The challenges we had were more logistical: The building had to stay open and the front door had to remain open all the time," Malone says. As work progressed, Bass Pro Shops managers shifted entrance functions to the exit doors to maintain access throughout the four-month project. Malone's crew used cranes to place materials on the roof and remove demolished materials from the roof.

Although the profile of the standing-seam roof remained similar to its original appearance, the Colonial Red finish creates a pop of color for the building. Malone says store managers initially were considering the spruce green color shared by many of the company's other outlets when they happened upon Colonial Red in Petersen's palette of stock colors.

"The fascia boards just happened to be the same color as the roof, so, when they saw the Colonial Red, it was an obvious color choice for them," Malone says, adding that managers remain pleased with their choice. "The customers are ecstatic about the roof. It has totally transformed the building—it's definitely an upgrade."

SNAP-CLAD ROOFING PANELS MANUFACTURER: Petersen, pac-clad.com

►► THE RETROFIT

The 100,000-square-foot store was a founding anchor retailer in the 150-acre-plus Bloomfield Development. It shares the title with Trustmark Park, home of the Atlanta Braves' minor-league baseball team, the Mississippi Braves.

People visit this Bass Pro Shops location for more than just shopping. The facility includes a large aquarium, shooting gallery and 3D archery range, along with a bar and restaurant. Since its 2005 opening, the surrounding development has grown to include The Outlets of Mississippi, the state's largest outlet center, which welcomes almost 4.5 million visitors every year.



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PITTSBURGH PRODUCE TERMINAL |

Pittsburgh



PHOTOS: JIM CUNNINGHAM PHOTOGRAPHY
unless otherwise noted



►► RETROFIT TEAM

ARCHITECT: Antunovich Associates,
www.antunovich.com

REAL-ESTATE DEVELOPER: McCaffery Interests,
www.mccafferyinc.com

GLASS FABRICATOR: United Plate Glass,
www.unitedplateglass.com

GLAZING CONTRACTOR: Specified Systems,
www.specifiedsystems.com

►► MATERIALS

Located in the heart of the city's popular Strip District neighborhood, the Pittsburgh Produce Terminal sat vacant and ignored for decades. But today, the historic 5-block structure is a beacon of creativity and innovation in the Steel City.

Antunovich Associates worked with McCaffery Interests starting in June 2019 to return the terminal's exterior to its original condition while

repairing and restoring the interior structure. Industrial wood bifold doors were replaced with new commercial glass storefronts, and passageways were cut through the building to connect the neighborhood with the Allegheny Riverfront Development.

By combining Solarban 70 and Acuity glasses the team was able to offer a mix of transparency, color-neutrality, solar control and visible light transmittance for the revamped terminal's needs. When coupled with Acuity low-iron glass in a 1-inch insulating glass unit, Solarban 70 glass offers visible light transmittance of 67 percent and a solar heat gain coefficient of 0.28. Specially engineered for vision glazings, Acuity glass can function as a substrate for Solarban low-e coatings or as a clear glass lite in insulating or laminated glass units.

SOLARBAN 70 AND ACUITY GLASS

MANUFACTURER: Vitro Architectural Glass,
www.vitroglazings.com

►► THE RETROFIT

The Pittsburgh Produce Terminal offers a mix of retail, dining and office space, with an emphasis on local and contemporary art. Tenants include Fine Wine & Good Spirits, District Brew Yard, City Grows and OnPar Now. The 163,500-square-foot space includes pedestrian passageways that connect to a riverfront trail.

Dan McCaffery, CEO of McCaffery Interests, said the goal was to collaborate with Antunovich Associates to transform the terminal into a central hub again for the citizens of Pittsburgh. "We crafted a mixed-use vision for the historic building that will restore its energy and vitality to once again make it a commercial, people-centric destination," he explains.



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►► RETROFIT TEAM

ARCHITECT: HTW Architects + Engineers,
htw-ae.com

CEILING CLOUD INSTALLER: Stellar Interiors
Drywall and Acoustical, (501) 327-2515

DISTRIBUTOR: L&W Supply, lwsupply.com

►► MATERIALS

First State Bank prides itself on being a strong, supportive bank for its vibrant community. Although the bank's operations and staff lived up to that motto, the Main Street downtown location's decor was not expressing it. A recent lobby renovation breathed life back into the branch, especially with a curved ceiling cloud feature that became a bold focal point. Flex-Ability Concepts'

FIRST STATE BANK | Russellville, Ark.

Flex-C Arch was selected for its installation ease to create the curved and lighted cloud.

"The renovation was needed to make a more comfortable and more useful space and also to modernize the interior look of the building. The curve incorporates a bold modern look, which contrasts with the original exposed gray cast-in-place concrete floor/ceiling above," says Ira Wimer, AIA, vice president of HTW Architects + Engineers.

A crew from Stellar Interiors Drywall and Acoustical installed 16 pieces of 3 5/8-inch Flex-C Arch and 30 pieces of 2 1/2-inch Flex-C Arch to create the curved ceiling cloud. The 3 5/8-inch Flex-C Arch was used around the perimeter of the main cloud, and the 2 1/2-inch Flex-C Arch was used around the perimeter of the inset, a recessed lighted cove.

HTW Architects + Engineers specified the use of a curved bottom track on a suspended wall to create the cloud. Malcolm Seiter, president of Stellar Interiors Drywall and Acoustical, says he selected Flex-C Arch because it was the easiest

way to form the radius while decreasing labor costs. With Flex-C Arch, arches and curves can be formed onsite or in a shop ahead of time.

Seiter says: "We use Flex-C Arch whenever we have a curved radius or archway opening in a metal stud wall. We like it because we just have to draw the curve on the floor, form the track to it and bend the tabs, and it will hold the curve for us. It saves a lot on labor compared to the old way we had to do it before we had this product. ... Using Flex-C Arch is a lot safer because you don't have to worry about cutting yourself on all the places that you cut the flanges on the regular track."

FLEX-C ARCH MANUFACTURER: Flex-Ability Concepts, www.flexabilityconcepts.com

►► THE RETROFIT

The design and construction team renovated the first-floor banking area, teller station, vault, offices and restrooms. The Main Street branch reopened in January to a positive reception, ready to serve its community once again.

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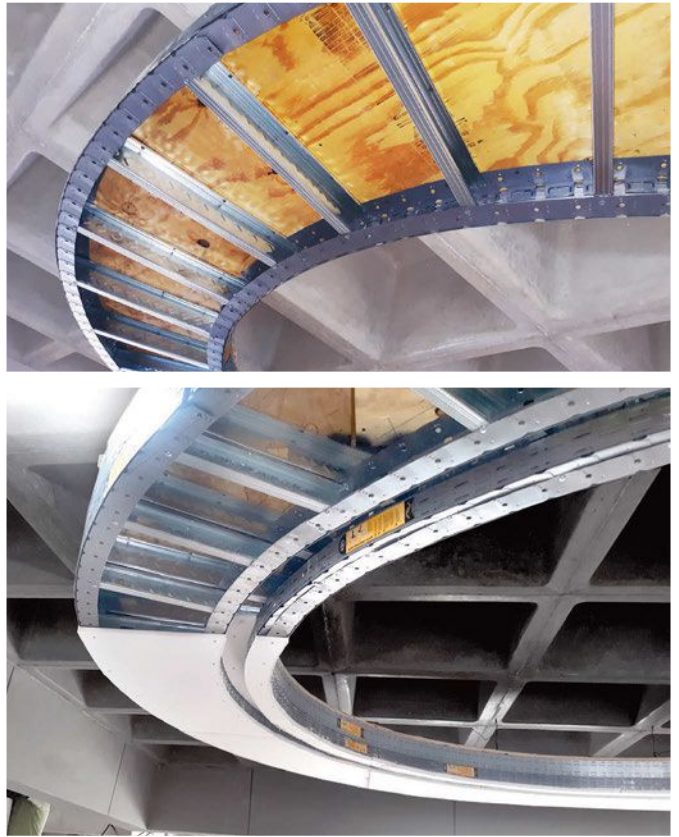
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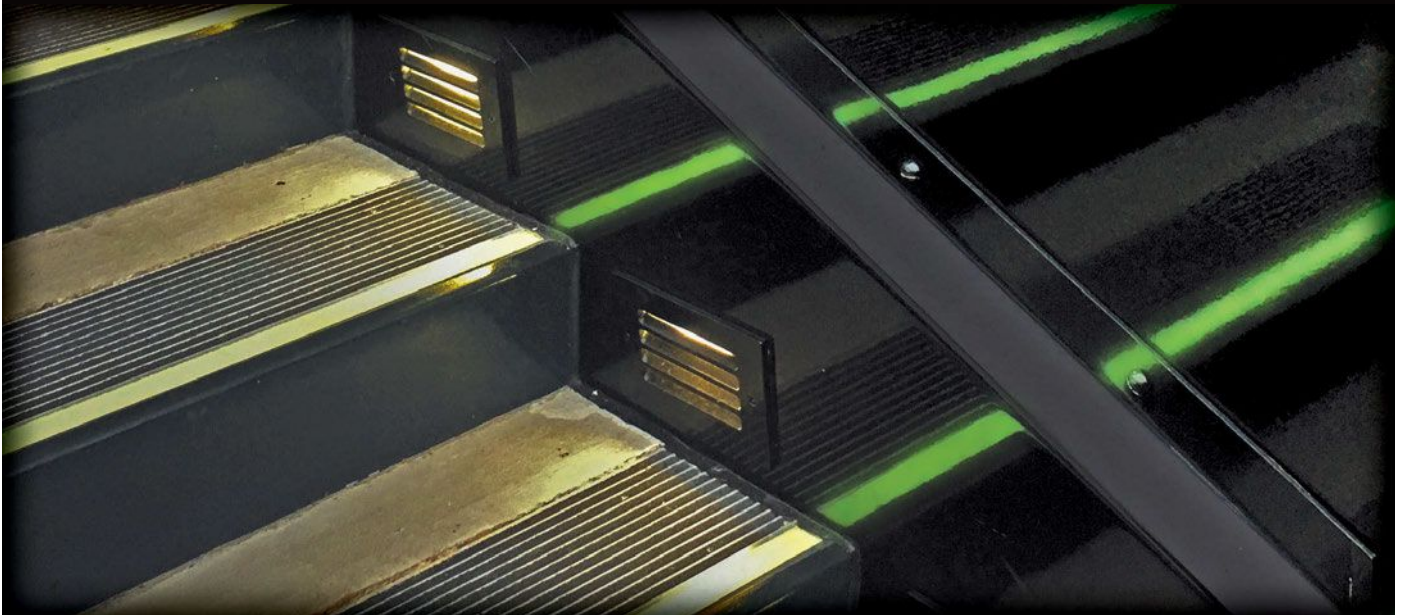
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WRITTEN BY | **RALPH VASAMI, ESQ.**

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SECONDARY WINDOWS ATTACH TO THE INTERIOR OR EXTERIOR OF AN EXISTING WINDOW AND CREATE AN INSULATING POCKET OF AIR BETWEEN THE EXISTING WINDOW AND SECONDARY WINDOW. THEY CAN INCORPORATE LOW-E COATINGS FOR EVEN GREATER PERFORMANCE.

The importance of energy efficiency in a building can't be overstated for the building's occupants.

The window industry has made impressive progress in manufacturing increasingly energy-efficient products and providing consumers with credible information about product performance through rating and certification programs, such as ENERGY STAR and the National Fenestration Rating Council.

Window attachment products, including commercial secondary glazing systems, blinds, shades and shutters, represent areas ripe for additional savings and performance ratings of these attachment products.

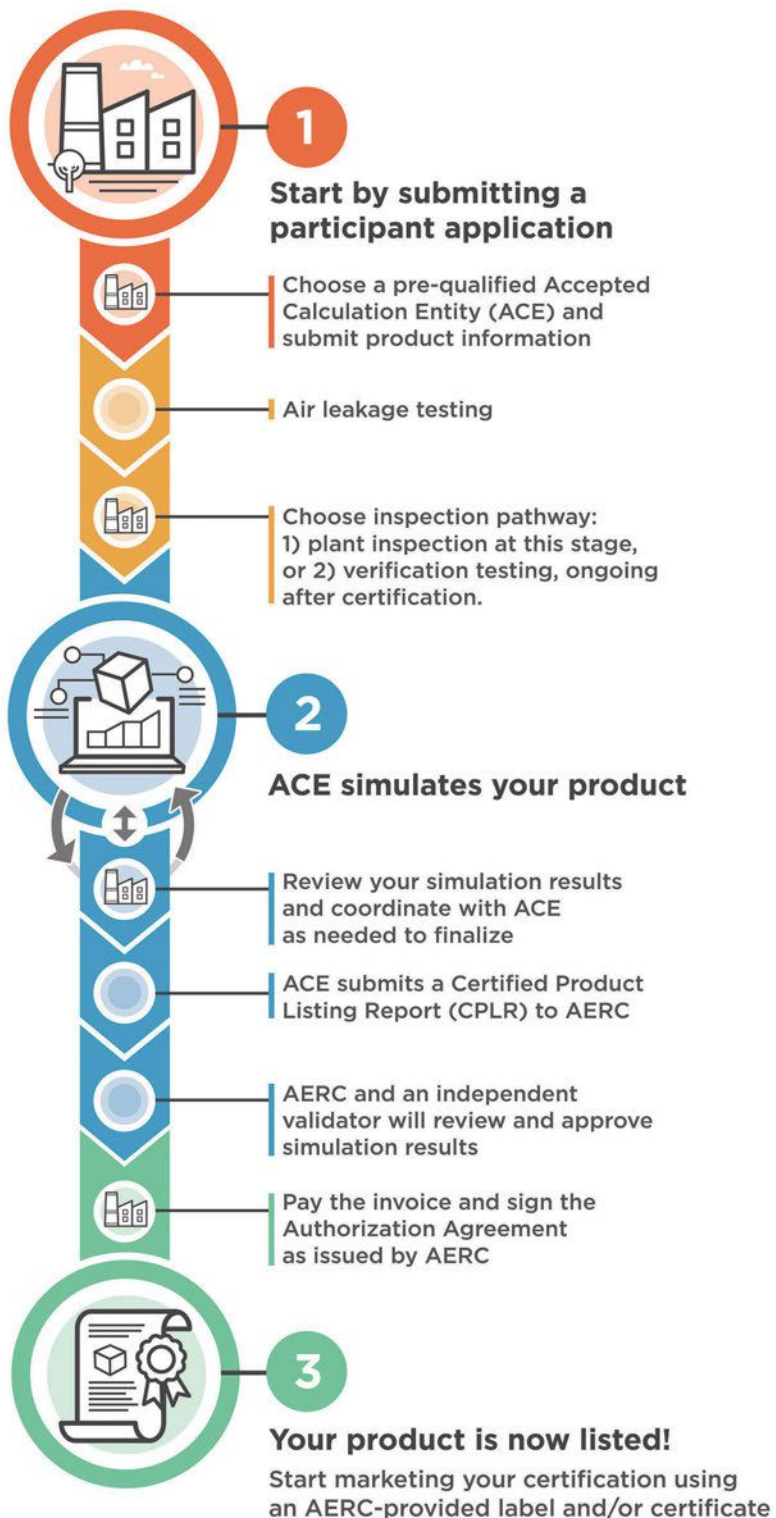
Secondary glazing systems—also known as low-e storm windows, insulating panels or secondary windows—are a cost-effective, high-performance energy-saving alternative for commercial buildings with older, less-efficient windows.

Secondary windows attach to the interior or exterior of an existing window and create an insulating pocket of air between the existing window and secondary window. They can incorporate low-e coatings for even greater performance. This results in improved occupant comfort, reduced heating and cooling usage, and lower costs. In fact, for mid- to large-sized commercial buildings with lower-performing windows, secondary windows can achieve excellent results in a very cost-effective manner. According to the Northwest Energy Efficiency Alliance, secondary window systems can help buildings cut energy use by up to 20 percent and are about half the cost of a window replacement. (Learn more at bit.ly/3wu46Vo.)

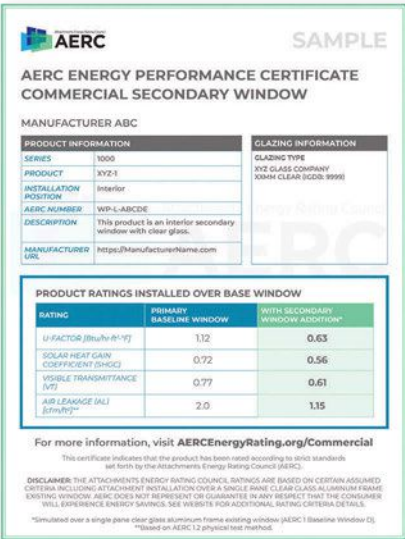
Analysis conducted by the U.S. Department of Energy has shown that window attachments have the potential to save significant energy in residential and commercial buildings. (Read about this at www.energy.gov/energysaver/energy-efficient-window-attachments.) As a result, in 2014, the Attachments Energy Rating Council (AERC) was formed. (Visit the organization's website at www.aercenergyrating.org.) AERC is an independent, non-profit organization whose mission is to rate, label and certify the energy performance of window attachment products for residential and

Achieving AERC Window Attachment Product Certification

► Follow these steps to get your attachment product certified and listed in AERC's Certified Products Database.



AERC-CERTIFIED SECONDARY WINDOW SYSTEMS



The following are the certified products in AERC's Commercial Secondary Windows program:

■ **INDOW WINDOWS, [INDOWWINDOWS.COM](http://indowwindows.com)**

- Acoustic Grade Window Insert
- Standard Grade Window Insert

Indow Windows' inserts are used by commercial customers to block drafts completely and reduce noise by up to 70 percent. The secondary windows ultimately lead to a 20 percent reduction in heating and cooling bills.

■ **LARSON MANUFACTURING CO., [WWW.LARSONDOORS.COM](http://www.larsondoors.com)**

- 1200E, ComfortSEAL Low-E Interior Single Hung Window
- 1500E, ComfortSEAL Low-E Interior Picture Window
- 1600E, ComfortSEAL Low-E Interior Slider Window
- 1900C, Commercial Insider Interior Glazing Panel (low-e glass)

Larson Manufacturing's certified low-e storm windows are used as an additional layer of glass on the interior of existing windows to provide more comfortable spaces for occupants. The secondary glazing systems not only provide thermal benefits, but the added layer dampens outside noise.

■ **QUANTA TECHNOLOGIES INC., [WWW.QUANTAPANEL.COM](http://www.quantapanel.com)**

- Interior Panels: QUANTAPANEL 602-PW IGS and QUANTAPANEL 605-DH IGS
- Exterior Panels: QUANTAPANEL 703-FP IGS and QUANTAPANEL 704-DH IGS

QUANTAPANEL Insulating Glass Systems (IGS) are used in single-family homes, as well as commercial and multifamily buildings. These products are suitable for buildings in which the owner seeks to retain the original windows for architectural or historic purposes but also wants performance in terms of energy efficiency, noise reduction and occupant comfort.

Learn more about each certified window system at aercenergyrating.org/product-search/commercial-product-search.

SECONDARY WINDOWS FROM LARSON MANUFACTURING REDUCE OUTSIDE NOISE IN A MARRIOTT HOTEL



Prior to the product's certification, the Sea-Tac Marriott Hotel in Seattle installed 450 I900C, Commercial Insider Interior Glazing Panels, with 3/16-inch tempered glass. Some windows have two vertical mullions and others have one, depending on window size and location. The lead contractor on the project didn't want to replace every window in the hotel but needed a way to reduce outside noise from the nearby Seattle-Tacoma Airport, as well as increase energy efficiency and eliminate the ability for hotel guests to operate the primary windows. Larson's secondary window solution fit the existing windows seamlessly, reduced noise and increased energy efficiency without affecting the guests' views.



ACCORDING TO THE NORTHWEST ENERGY EFFICIENCY ALLIANCE, SECONDARY WINDOW SYSTEMS CAN HELP BUILDINGS CUT ENERGY USE BY UP TO 20 PERCENT AND ARE ABOUT HALF THE COST OF A WINDOW REPLACEMENT.

commercial applications.

AERC was formed with funding provided by DOE and the window attachments industry and has the support of organizations, such as Lawrence Berkeley National Laboratory, Oak Ridge National Laboratory, Intertek and other energy-efficiency organizations that assist AERC in developing test methods, simulation models and certification procedures.

AERC launched the Commercial Secondary Window Program (aercenergyrating.org/product-search/commercial-product-search) in 2020 alongside its existing residential products program (aercenergyrating.org/product-search/residential-product-search). AERC recognized the potential of secondary windows and prioritized the development of a rating and certification program to provide the industry with credible data about the energy performance of these products.

"The DOE recently analyzed 400 energy-efficiency technologies and ranked interior and exterior storm windows No. 2 in their potential impact," says Paul Hagar, AERC's marketing director. "Everyone involved with saving energy in buildings will want to know how much energy storm windows can save, and AERC's third-party testing and validation provides trusted data that lets energy-efficiency professionals understand the tremendous energy savings storm windows offer." (Read about DOE's analysis of energy-efficiency technologies at bit.ly/3zsr2WC.)

To achieve AERC commercial certification, products must be evaluated against AERC's technical standards to assess key performance metrics, including U-factor, Solar Heat Gain Coefficient, Visual Transmittance and Air Leakage. All product performance is independently verified by

Intertek, a third-party administrator, before products can earn AERC certification.

Three manufacturers were early adopters of the AERC program and earned the first AERC commercial certification in the industry at the end of 2020. Four interior storm window products from Larson Manufacturing Co., two interior and two exterior products from QUANTA Technologies Inc., and two window insert products from Indow Windows are now certified through AERC. (See "AERC-certified Secondary Window Systems," page 44.)

"As AERC certification is more widely used and recognized, architects, contractors, building owners and facility managers will have a better way to compare products apples to apples," explains Sam Pardue, CEO and founder of Indow Windows. "Product testing can be done differently by different manufacturers, which can result in misleading comparisons. By having a way to validate that data—that products are being tested under the same conditions—stakeholders and decision-makers are now able to make informed, comparative decisions."

David Bailey, division manager for Larson Manufacturing, agrees: "Certification has given Larson's team the ability to highlight energy savings of the certified products and present product claims in a substantiated way that contractors, building owners and architects can trust. The certification process assures the energy performance of the products, and end-users can know that products are certified to perform to levels stated by the manufacturer."

However, Pardue emphasizes it remains the responsibility of the manufacturer to have highly trained and knowledgeable staff to help stakeholders determine how

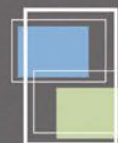
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certified products will perform in specific environments.

"It is our hope that the standardization of testing creates a rating based on performance, rather than specific technology, which will aid in the adoption of products other than low-e secondary

glazing into incentive programs allowing utilities and utility partners to meet their energy-reduction and -conservation goals," Pardue adds.

The AERC Commercial Secondary Window Program not only benefits the manufacturers who participate and the

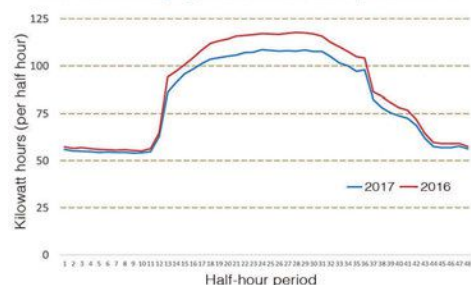
industry at large, but also helps end-users and consumers. AERC has established a trusted and objective method for assessing and improving window attachments. Its commitment to extending and enhancing that method will guide the organization and its partners in years to come. 

WINDOW INSERTS FROM INDOW WINDOWS SAVE A COUNTY MONEY WHILE ASSISTING THE HOMELESS POPULATION

The local government in Arlington County, Va., used Indow Windows commercial secondary windows when converting an office building with fixed windows into a homeless shelter. Replacing the windows would have cost more than \$1 million and require exterior scaffolding. For less than 20 percent of that cost,

the county installed 304 Standard Grade Window Inserts, replacing a potentially dangerous makeshift solution of plastic sheeting and expensive space heaters. The 50-year-old single-pane windows perform like new double-pane windows, delivering improved results as shown in the graph.

Average daily electric load shape at Court Square West for 30 weekdays (mid-June to mid-July) comparing 2017 and 2016. Half-hourly data from Dominion. *2017 has been slightly hotter than the same period in 2016*



HISTORIC WINDOWS MEET ENERGY-EFFICIENCY REQUIREMENTS WITH SECONDARY WINDOWS FROM QUANTA TECHNOLOGIES

Prior to certification, QUANTA Technologies Inc.'s products were used in several commercial projects by Tom Carnevale of Carnevale Eustis Architects Inc., Phoenixville, Pa. Carnevale utilized QUANTAPANELS during the Phoenixville Public Library project, a renovation and systems update to the original historic 1901 Carnegie Library. The renovations were undertaken to bring the interior functions up to the needs of current library users. System upgrades integrate modern updates into the historic fabric of the original building.

"The exterior QUANTAPANELS with a custom color were not only used to

upgrade the energy efficiency of the historic windows, but also to protect the exterior of the restored window unit," Carnevale explains. "Custom sizes and shapes were easily and cost-effectively provided by QUANTA."

Similarly, Carnevale's team used QUANTAPANELS during the Colonial Theatre expansion project in downtown Phoenixville. The project repurposed the former 1924 National Bank building into two new theaters and a lobby. The large steel windows, which overlook the historic downtown, were restored. The existing second-floor windows became a feature element of the new lobby

mezzanine. The exterior window profiles and shadow lines were an important feature of the exterior façade. Therefore, custom-color interior 602-PW IGS QUANTAPANELS were utilized to upgrade the energy efficiency of these window units. The team also used 702PW exterior secondary windows on the project.

"We incorporated QUANTA products into these projects before they were officially AERC certified but, had they been certified, it would have been very helpful in selecting the correct units and also in assuring the clients that the products had been tested according to high industry standards," Carnevale adds.



Exterior QUANTAPANELS with a custom color upgrade the energy efficiency of the Phoenixville Public Library's historic windows while protecting the exterior of the restored window unit.



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When Window Replacement Isn't an Option

WRITTEN BY | **BROOKS GENTLEMAN**



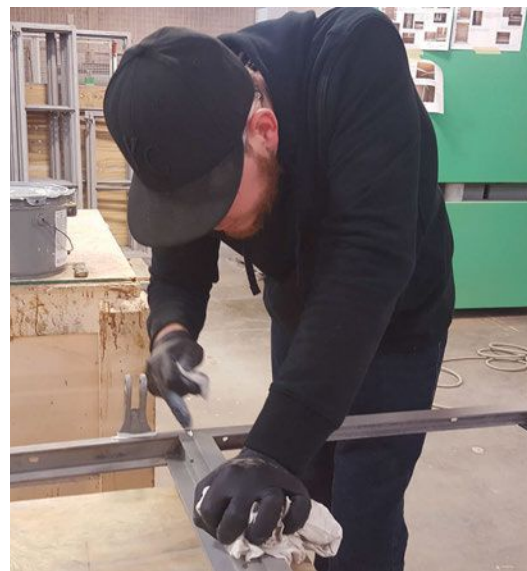
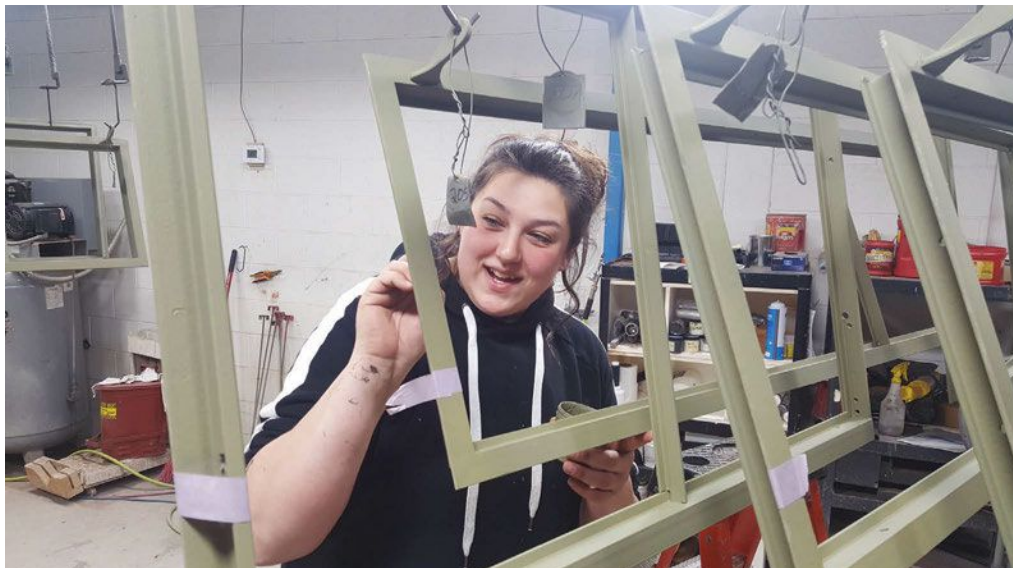
PHOTOS: RE-VIEW WINDOWS INC. unless otherwise noted

Steel windows were extremely popular in the U.S. in the late 19th and early 20th centuries for a number of reasons. The structural strength of steel allowed designers to create larger window openings while utilizing narrow window profiles to maximize the visible glass in a typical opening. This also appealed to popular modernist architectural designs of the period that incorporated large expanses of glass with very narrow sightlines. Steel also has proven to be an extremely durable material that will last for hundreds of years with minimal maintenance.

The ubiquity of steel windows in historic structures can create a challenge for building owners. Although the design and durability of historic steel windows is a big asset for a landmark structure, it can also create a major challenge when it comes to bringing the structure up to modern energy-performance standards. Steel windows are inherently inefficient in thermal and shading coefficient standards, making them a liability to restore. There is, however, a new means to breathe life into these classic window designs.

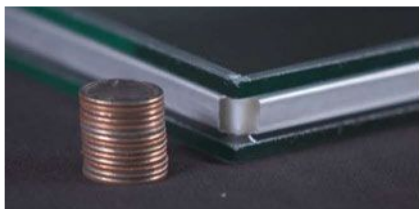
Re-View Windows Inc., a full-service historic window company, recently performed steel window restoration at the John Sevier State Office Building in Nashville, Tenn. The Art Deco-style building was constructed in 1940 as the Tennessee State Office Building and now houses the offices for the attorney general and the Tennessee Highway Patrol command center. The full-scale renovation project involved exterior restoration of masonry and windows and a complete restoration of the interiors, including upgrading the mechanical and lighting systems.

RE-VIEW WINDOWS' TEAM MEMBERS RESTORED THE ORIGINAL STEEL WINDOWS OF THE 1940 JOHN SEVIER STATE OFFICE BUILDING, NASHVILLE, TENN. THE TEAM IS VERY ADEPT AT MAKING MODIFICATIONS TO WINDOW DESIGN THAT DON'T IMPACT THE HISTORIC ARCHITECTURAL APPEARANCE.

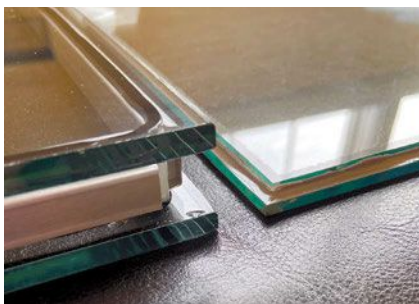


RE-VIEW CONFRONTS THE BALANCE OF MAINTAINING THE HISTORIC INTEGRITY OF AN ORIGINAL WINDOW SYSTEM WITH ENERGY PERFORMANCE DEMANDS ON MOST OF ITS PROJECTS.

TYPICAL INSULATED GLASS UNIT – 1-inch thick



TYPICAL INSULATED GLASS UNIT versus VACUUM INSULATED GLASS



VACUUM INSULATED GLASS – 1/4-inch thick



VACUUM INSULATED GLASS CAN BE AS THIN AS 6.2 MILLIMETERS, MAKING IT IDEAL FOR GLAZING HISTORIC STEEL WINDOW SASH.

The Re-View Windows crews removed all of the window sash on the project and installed temporary enclosures. The sash were shipped back to the Re-View restoration plant where team members removed the existing glazing and finishes. Craftsmen restored the sash by welding replicated parts and structurally deficient sections. Re-View also filled pits with special restoration epoxy designed for steel. The sash were then blasted to achieve a targeted surface preparation for the specialty fluoropolymer finishes that were applied to all surfaces. The Re-View field crews restored the frames onsite before reinstalling the restored sash. Many of the sills needed to be replaced because of decades of corrosion.

In an effort to upgrade the energy efficiency of the window system, Re-View Windows glazed the windows with vacuum insulated glass (VIG). This glass, which already is widely used in Japan, is just beginning to gain popularity in U.S. commercial construction. VIG is created by extracting the air between two sealed panes of glass, creating a vacuum that has amazing insulating qualities. This vacuum technology is capable of achieving previously unthinkable energy performance, such as a 1.4 U-Factor. In addition to the outstanding performance data, VIG can be as thin as 6.2 millimeters, making it ideal for glazing historic steel window sash. Re-View glazed the VIG with putty to match the architectural design of the originals.

Re-View Windows also restored the window hardware by removing finishes and varying degrees of patina. The crew then applied a patina that was desired by the design team. Broken or missing hardware was custom-casted to match the existing. Re-View Windows often has to custom-make hardware because the original manufacturers are no longer in business.

Re-View Windows' steel window restoration at the John Sevier building is a fine example of gracefully connecting historic integrity with modern technology. 

The original steel windows had been neglected for decades and suffered from corrosion. The windows also failed to meet desired goals for energy efficiency. The simple answer to demands for energy upgrades in a building like this is to replace the windows with modern units. Given the historic significance of this structure, replacing the windows with an aluminum facsimile was not an option.

Re-View Windows confronts the balance of maintaining the historic integrity of an original window system with modern energy performance demands on most of its projects. As the country pushes for public and private buildings to meet a net-zero-energy consumption goal in the future, Re-View has had to get creative in upgrading the energy performance of its window restorations. The firm's team members are very adept at making modifications to the design that don't impact the historic architectural appearance. Re-View Windows' steel window restoration of the John Sevier State Office Building is a fine example of its ability to achieve modern performance from period windows.

RETROFIT TEAM

ARCHITECT // HFR Design, now owned by Wold Architects & Engineers, www.woldae.com

GENERAL CONTRACTOR // Hardaway Construction, www.hardaway.net

WINDOW RESTORATION // Re-View Windows Inc., www.reviewwindows.com

MATERIALS

VACUUM INSULATED GLASS // Pilkington Spacia from NSG Group, www.nsg.com/en

WINDOW SASH FINISHES // Tnemec, www.tnemec.com



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STARRING

by Ted Gibson

A Los Angeles Salon
Utilizes Smart Home
Devices to Enhance
the Client Experience

PHOTOS: RAFAEL GAMO unless otherwise noted



During the past several decades, the retail landscape has changed dramatically. The cost of space has increased and this, in turn, has made it more costly to house inventory, such as beauty products. At the same time, shoppers have increasingly elected to purchase products online. This has been caused in part by lower costs, as well as by the convenience of having the products delivered directly to one's place of residence.

WRITTEN BY | FRANCISCO GONZALEZ PULIDO

As shopping habits have changed, so too has the nature of the stylist. Stylists have become increasingly entrepreneurial. They have found greater independence from the salon via social media. This has led to a capacity to move from one locale to another with greater ease. Salons have responded by offering greater flexibility and allowing stylists to work on a more temporary basis rather than having a permanent station.

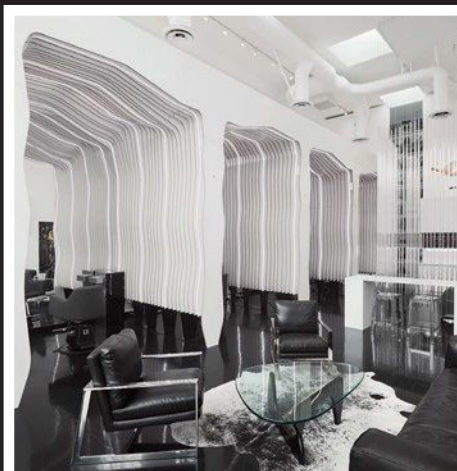
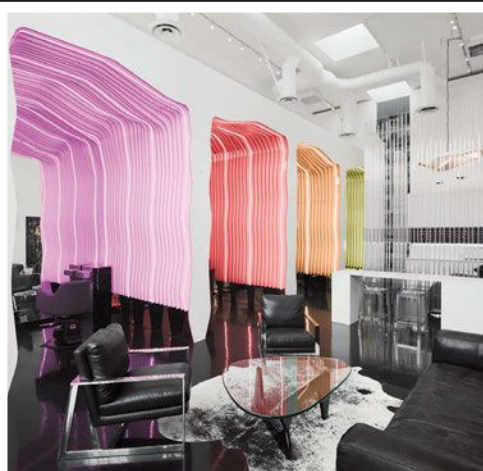
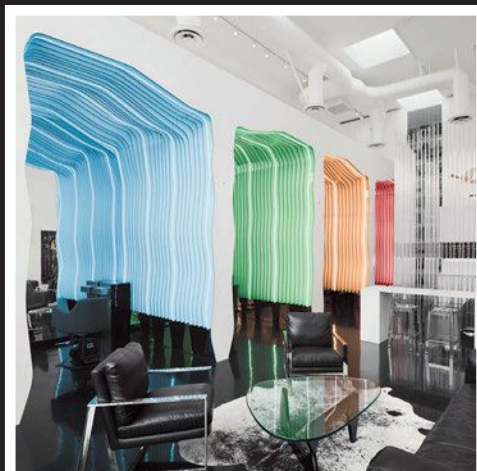
It was in this context that Ted Gibson and his partner Jason Backe found themselves when they decided to close their 40-seat salon in New York. The duo had been working between the East and West Coasts. Ultimately, they decided to relocate to Los Angeles and develop a salon tailored to the entertainment industry. At the same time, they were interested in creating a space to serve a younger crowd of entertainers and influencers rather than the more established socialite and

fashion clientele that patronized their New York salon. It was in this context that they approached FGP Atelier to design their new space.

A Different Space

The type of space that would draw the necessary interest would have to be quite different than what had served them in the past. Whereas the grand and the great were once considered attractive, the intimate, unique and relatable had increasingly become a focal point. People are more interested in spaces addressed to the scale of the body and experiences fostering exclusivity and quality. Ultimately, this shift presented the opportunity to consider what one can accomplish at a small scale that cannot be done at a larger scale. It created an opportunity to work within budgetary and time-frame limitations to achieve something remarkable.

To address these limitations, a



Five semi-enclosed pods, or clouds, can be adapted to a particular client's preferences for lighting and music while also providing visual isolation from the other guests in the salon. Each cloud offers different ambient lighting options to view hair color and styles in various light and ambient settings.



modular solution was offered for the salon, which is located within an existing 1,500-square-foot retail space on La Brea Avenue in Los Angeles. This included the repetition of five semi-enclosed pods that each measure approximately 13-feet high by 9-feet deep by 8 1/2-feet wide. The form of the pods was inspired in part by hair blowing in the wind. Each varies slightly and was manufactured with the aid of digital fabrication technology.

Each pod, or cloud, allows for a unique atmosphere that can adapt to a particular client's preferences for lighting and music while also providing visual isolation from the other guests in the salon. Each cloud offers different ambient lighting options, like "Everyday Sunshine," "Moonlight" and "Indoors," to view hair color and styles in various light and ambient settings. These pods sit within a neutral white environment that provides a bright backdrop to serve as a stage for guests. Beyond the series of pods lies a waiting area in lieu of a reception desk, a washing area screened by a curtain of thin Plexiglas rods and a powder room with custom wallpaper.

When looking back, I feel that the project reflects the artifice of product and brand design. The space is focused on consumption and emotion while utilizing integrated technology as the interface. Ultimately, the "smart salon" explores private and public boundaries in a small footprint, seeking to present the essence of the brand and to connect it with the future of retail as a typology.



Amazon Partnership

The guest experience, as well as the broader salon, is powered by Alexa through a partnership with Amazon. In addition to controlling lighting and audio, the partnership with Amazon also makes it possible to scan styling products on shelves in the salon, add those products directly to the client's shopping cart and then have them delivered later that day. This is the first cashier-less retail establishment that Amazon has created through partnership with a brand that is not Amazon's own. As the first "smart/intelligent salon," it will set a new standard for the industry and become a prototype for future salons by Ted Gibson and Jason Backe. The salon has proven a success for Starring by Ted Gibson and may have, in part, inspired Amazon to open its own Amazon Salon prototype—a 1,500-square-foot space in London's Spitalfields.

Additionally, each individual cloud features an Amazon Fire Tablet, Amazon Prime Video application and Sonos speakers for truly personalized entertainment programming and music options. The salon itself is entirely voice-activated through Amazon Alexa, and a state-of-the-art entertainment lounge welcomes guests instead of a traditional salon waiting area. Guests are invited to relax in this lounge and choose from a range of entertainment options if their stylist is not ready. In all cases, stylists welcome guests personally into the welcoming space.

The ultimate experience of being in the salon is quite powerful. The contrast between the dark ground and white

clouds leads to a feeling of lightness and almost being suspended in space and time. Although Starring by Ted Gibson is a relatively small space, its division into a series of spatially unique zones makes it feel far bigger while providing a sense of intimacy as one inhabits these areas. Inside each cloud, the guest truly feels removed from the more public areas and enveloped by the architecture of the salon. This spatial isolation proved to be of great benefit when businesses began reopening in the final phase of the COVID-19 pandemic. At the same time, the ability to peer through the small gaps between the layers that make up the clouds provides an alluring glimpse of the celebrity who may be in the neighboring cloud.

Great Disruptor

Projects, such as Starring by Ted Gibson, provide a unique opportunity that the far larger projects we design at FGP Atelier—the new airport for Mexico City and towers in China, for example—often do not. They can be executed more quickly and offer a chance to experiment with new techniques, forms and experiences.

At the same time, they offer a chance to design more directly at the scale of the human body to provide intimate experiences highly tailored to the specific program, context and culture. In my experience, the smallest projects are often the greatest disruptors, fertile ground for experimentation; the restrictions on budgets and space are drivers of innovation. 

>>RETROFIT TEAM

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- Francisco Gonzalez Pulido, principal-in-charge
- Mathew Stymiest
- Gergana Gonzalez Pulido
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- Sophia Fernandez

PODS/CLOUDS MANUFACTURER //
Celco Manufacturing, www.celcomfg.com

GENERAL CONTRACTOR // Smith
Global Media, www.smithglobalmedia.com

>>MATERIALS

PODS/CLOUDS // Custom

PENDANTS // Powell Street Pendant Lamp
from Tech Lighting, www.techlighting.com

TABLES // Noguchi Coffee Table from
Herman Miller, www.hermanmiller.com/products/tables/occasional-tables/noguchi-table

LIGHT // Cosmic Angel by Artemide,
www.artemide.com/en/subfamily/69396/cosmic-angel

TECHNOLOGY // Sonos Speakers,
www.sonos.com; Amazon Fire Tablet,
Amazon Prime Video Application and
Amazon Alexa, www.amazon.com

Although Starring by Ted Gibson is a relatively small space, its division into a series of spatially unique zones makes it feel far bigger while providing a sense of intimacy as one inhabits these areas.



DOWNTOWN HUB

A Non-descript Warehouse
Now Houses a Diverse Group
of Commercial Tenants

WRITTEN BY | ERIN CONRAD



PHOTOS: SCOTT SMITH unless otherwise noted



Today's thriving Tulsa Arts District was once a commercial and industrial hot spot north of downtown Tulsa, Okla. The district's origins in the late 1800s arose from the storage and export needs of the intersecting St. Louis-San Francisco Railway and Missouri-Kansas-Texas Railway. During the early 1900s, Tulsa's need for warehouses only grew as the oil industry boomed. The warehouses that exist today were mostly built in the 1920s and served as the heart of Tulsa's distribution system.

As the days of railroad dominance waned, the trucking industry began to pick up steam. The Archer warehouse, which had been built in 1925 along Archer Street for wholesale distribution, transformed into a trucking distribution center in the wake of the oil tenant exodus. After nearly 70 years of hustle and bustle, the industrial district grew quiet, and the warehouses slowly shuttered. The Archer building's use changed over the years, eventually becoming a long-term storage facility in the mid-'90s.



Nearly 100 years after the district's boom, the George Kaiser Family Foundation (GKFF) stepped in to revitalize the forgotten buildings in 2016. (Read about GKFF's transformation of the district's Universal Ford Building into 36 Degrees North, which appeared in *retrofit*'s July-August 2016 issue, www.retrofitmagazine.com/building-changes-way-we-work.) The 72,000-square-foot Archer warehouse building (which technically is four different structures), located in the heart of the district, was poised to restitch the fragmented urban fabric of the city.

GKFF representatives envisioned the Archer building as a multi-use space for everything from apartments to art studios, retail stores and restaurants, even an underground jazz club. Most of the warehouse's original openings were blocked, and the original brick, which was painted a light tan color, made the building appear almost featureless.

Underneath the bland façade, GKFF knew the Archer building was worth a second chance. Principal Architect Chris Lilly of local

George Kaiser Family Foundation representatives envisioned the 72,000-square-foot, 1925 Archer building as a multi-use space for everything from apartments to art studios, retail stores and restaurants, even an underground jazz club. Note the uncovered "ghost sign" of a business that once resided within the Archer building.



firm Lilly Architects believed in that mission. “It just makes sense to transform aging buildings and spaces into something new and exciting; people have an inherent appreciation for it,” Lilly says. “Beautiful, engaging and telling of a bygone era, these buildings are essential in preserving a place’s culture.”

The Archer building’s history is now on display for visitors and locals to enjoy a mix of art, retail, restaurants and other amenities in the thriving Tulsa Arts District.

Pieces of a Puzzle

GKFF invests in a culturally vibrant and economically robust

Tulsa to ensure a thriving community that affords opportunities for all citizens to enjoy a high quality of life.

In that vein, GKFF representatives were interested in creating artist studios within the Archer building for the Tulsa Artist Fellowship program, which brings artists together to live, work and interact with in the city of Tulsa. (Learn more about the fellowship at www.tulsaartistfellowship.org.)

In addition to the artist studios, GKFF representatives developed the Archer building to be supportive of a vibrant and activated street front. When the project began, the Archer building had been long-

term storage for paper records primarily. There were signs of homeless people living in the vacant portions of the building but, overall, it was in good structural condition.

The building was a mix of framed partitions/lay-in ceilings and open warehouse space. It was difficult to get a sense of what the interior might be like because many of the original openings were covered. Therefore, the design team performed a 3D scan of the structure to maximize accuracy in the design documents.

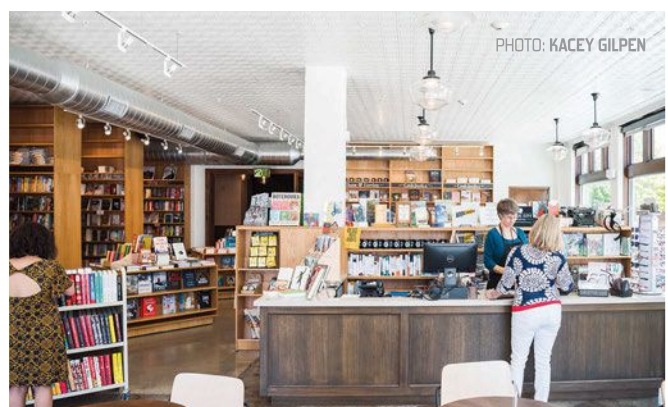
One of the project’s significant challenges was coordinating the many entrances with

the exterior grading of the sidewalks. Through the decades, the building was added to and modified many times. As a result, many floor elevations were inconsistent. The scan proved invaluable in finding inconsistencies during the design phase before bidding.

To take advantage of the Archer building’s 125- by 300-foot footprint, the design team located the building’s retail tenants along Archer Street, Detroit Avenue and Martin Luther King Jr. Boulevard. This strategy activated those public-facing façades.

Meanwhile, on the alley side of the building, large-format artist studios were

During the oil boom that brought so many people to Tulsa, Okla., Teddy Roosevelt described Tulsa as a “magic city.” Now, the Archer building is anchored by a bookstore called Magic City Books, a fitting name for a city that despite its ups and downs has never lost its magic.





created for the Tulsa Artist Fellowship. The studios feature overhead doors for easy loading and unloading and are often utilized for exhibitions and shopping. The design was inspired partly by the Torpedo Factory Art Center located in Old Town Alexandria, Va. More artist studios are located on the second floor of the Archer building, along with 14 apartments, ranging in size from 540 to 760 square feet. Special attention was given to acoustics; noise-controlling ceiling products were used to provide isolation in conjunction with multiple layers of drywall.

The rooftop terrace was a challenge the design team

solved. The structure required reinforcement to accommodate the loading of the terrace. Sightlines also were important in maintaining the original massing of the historic building. Today, the rooftop terrace is a daily amenity for the artists, as well as accommodates outdoor exhibits and entertainment, such as the First Friday Art Crawl, a monthly event that draws visitors from far and wide.

To accommodate the underground jazz club within the Archer building, the design team had to expand beneath the structure. The jazz club was placed into an already existing basement on the east

side of the building on Detroit Avenue. However, it needed about 600 square feet of additional space to accommodate a green room and storage.

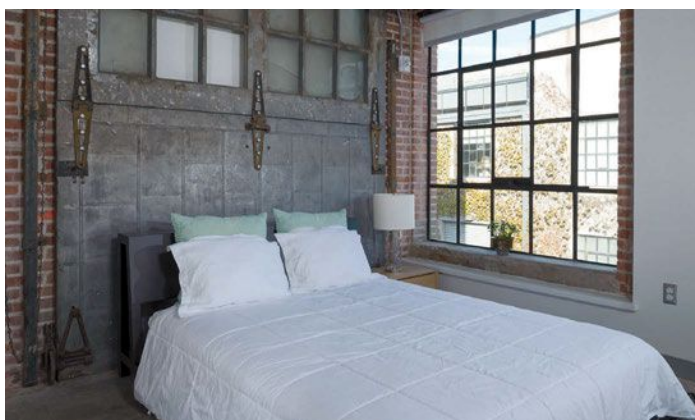
During the process of expanding, the building had to be temporarily reinforced from the basement all the way to the top. "Another thing that's interesting about the jazz club is the existing concrete columns impeded sightlines to the stage," Lilly says. "We actually had to shore up the building all the way up again to cut the concrete columns that were larger and replace them with a round steel column that afforded much better sightlines for the venue."

The team also rebuilt the staircase on the east side of the building to allow multiple points of access for flexibility and two means of egress from the basement. Today, soft jazz melodies can be heard from time-to-time wafting out into the street on busy summer nights.

Architectural Integrity

The Archer building received state and federal tax credits and, therefore, had to adhere to historic preservation guidelines. For example, Lilly and his team made painstaking efforts to ensure the integrity of the façade was maintained throughout the project. When

The Archer building's second floor includes 14 apartments, ranging in size from 540 to 760 square feet. Special attention was given to acoustics so the noise from adjacent businesses, like the Glacier Dessert Bar (above), doesn't disturb tenants.



>>RETROFIT TEAM

ARCHITECT // Lilly Architects,
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CIVIL ENGINEER // Wallace Engineering,
wallace.design

STRUCTURAL ENGINEER // 360
Engineering, www.360enggroup.com

MEP ENGINEER // HP Engineering Inc.,
hpengeeringinc.com

GHOST SIGN RESTORATION // Parker
Conservation Inc., (479) 736-8703

>>MATERIALS

CURTAINWALL // Clearwall Curtainwall
System from Kawneer, www.kawneer.com

REPLACEMENT WINDOWS //
Weather Shield Windows & Doors,
www.weathershield.com

CARPET // Design Journey, Chok Tile,
99760, from Shaw Contract,
www.shawcontract.com

BASE // Reveal, MWF-XXX-F, Silver Grey
WG, from Johnsonite, commercial.tarkett.com/en_US/brand/johnsonite

PAINT // Alabaster SW7008, Tricorn Black
SW6258, from Sherwin-Williams,
www.sherwin-williams.com

TILE // Industrial Park, Charcoal Black
IPO9, by Daltile, www.daltile.com/product/Industrial-Park

COUNTERTOPS // Solid surface, Cameo
White and Deep Caviar, from Corian,
www.corian.com

CEILING // Tectum Inc., www.tectum.com

ROLLER WINDOW SHADES //
Double-Take T100 from SWF Contract,
www.swfcontract.com

LIGHTING // Axis, www.axislighting.com; Columbia Lighting, www.hubbell.com/columbialighting; Cree Lighting, www.creelighting.com; DesignPlan, www.designplan.com; Dual-Lite, www.hubbell.com/dual-lite/en; Elite LED Lighting, iuseelite.com; Hess America, www.hessamerica.com; Isolite, isolite.com; Juno, juno.acuitybrands.com; Kim Lighting, www.hubbell.com/kimlighting; LF Illumination, lfillumination.com; Startek Lighting America, starteklightingamerica.com; Williams, www.hew.com; Tech Lighting, www.techlighting.com; and Tivoli, www.tivolilighting.com

CEILING HANGERS // Kinetics Noise
Control, kineticsnoise.com



Above the underground jazz club, Duet, is the Duet Restaurant, which serves modern American cuisine and features live music on its patio.

repointing the masonry, the team identified a new mortar that was a near perfect match to the original mortar. “Oftentimes, if you go in and mess up the mortar, that will change the building substantially,” Lilly says. “It’s really important to get that correct.”

Steel windows throughout the building were repaired and reglazed. However, wood windows had to be replaced. New curtainwalls were recessed and installed where larger entrances originally were located. This helps with wayfinding and clarifying the varying uses of the Archer building.

In addition, Lilly wanted to uncover some of the building’s history that had been painted over during the decades. Many older buildings and warehouses have “ghost signs”, or painted names of tenants who occupied the building long ago. Lilly assumed the Archer building would be no different but, when the project began, the building was painted a tan color, and the team didn’t know specifically where the ghost signs were located.

Lilly reached out to Rick Parker of Parker Conservation Inc. in Gentry, Ark. Parker is a professional associate with the American Institute of Conservation and Lilly had previous experience with him and his skills. Parker tested areas of the building that were likely to have ghost signs.

Parker also tested the tan paint on the building and determined its composition so it could be removed safely without damaging the lead-based paint ghost signs beneath the more modern paint. Today, the Archer building shows the ghosts of busi-

nesses that once called it home.

“This building has a long history, and it’s exciting to see it,” Lilly states. “As you renovate an old building, you notice all these little things, like a line in the concrete or scars that are left behind that tell the history of the structure. When you find ghost signs like this, or even hidden behind walls or openings that have been filled in, it tells the story of the building and it shares the history with the broader community.”

Inherent Value

The Archer project was completed in 2019 and boasts 14 different tenants, including a bookstore, chocolatier and yoga studio. And the project was designed with the future in mind. Plenty of chase space in the middle of the building gives HVAC systems on the first level flexibility now and for future tenants.

In addition, the project has spurred adjacent development and momentum continues. Today, the Tulsa Arts District is a walkable haven full of public parks, art spaces, restaurants, retail, a baseball park, bars and nightlife. Just 10 years ago, it was practically deserted, full of unused buildings and some storage. The Archer warehouse renovation honors the past, serves the present and looks to the future.

“By preserving an existing building rather than demolishing and building a new one, the surrounding neighborhood benefits because the preservation of one building demonstrates the value of preserving the surrounding buildings,” Lilly says. 

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INDUSTRIAL

One of the Few Buildings to
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Class A+ Office Space

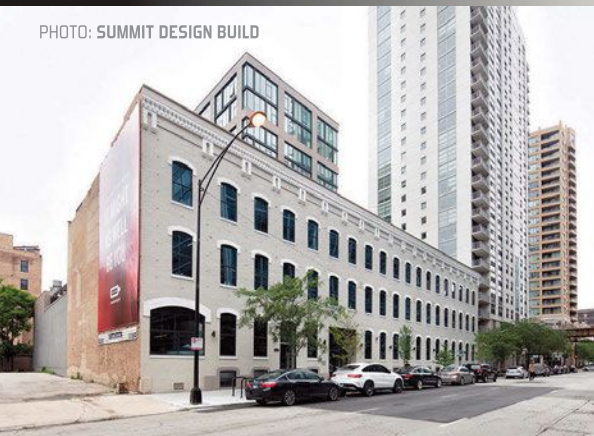
CHIC

WRITTEN BY | HOWARD M. HIRSCH, AIA, LEED AP

156 N. JEFFERSON, the Crane Co. Factory Building (originally Northwestern Manufacturing Co.), is a unique building in the context of Chicago. Built in 1865, it is one of the few remaining pre-Great Chicago Fire (Oct. 8-10, 1871) industrial buildings that exists today. It also is the oldest documented building associated with Crane Co., which was founded in 1855 as a pipe and metal-parts manufacturer (and later made elevators and bathroom fixtures).

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PHOTO: SUMMIT DESIGN BUILD



The building itself, a 3-story, 36,800-square-foot Italianate loft (the most popular style in Chicago in the 1860s and '70s), was part of a larger complex of buildings that extended from Jefferson Street to Des Plaines Street and from Randolph Street to Lake Street.

In 1869, the complex was adjacent to the site of the Haymarket Square Riots, which forever changed Chicago and the labor movement. In recent years, the building had hosted offices for various professional services.

A joint venture of Promus Holdings and RDG Funds purchased the historic building in 2017 with the intention of turning it into their own corporate offices. Because the building is located in a popular West Loop neighborhood, near

Fulton Market, the new owners saw this building as the perfect opportunity to create unique corporate offices with an industrial loft flare.

Hirsch MPG was brought on board as the architect of record for the entire project and the designer of the core and shell elements. Mike Shively Architects, which had previously designed the private residence for the owner of Promus Holdings, was brought in to design the interiors.

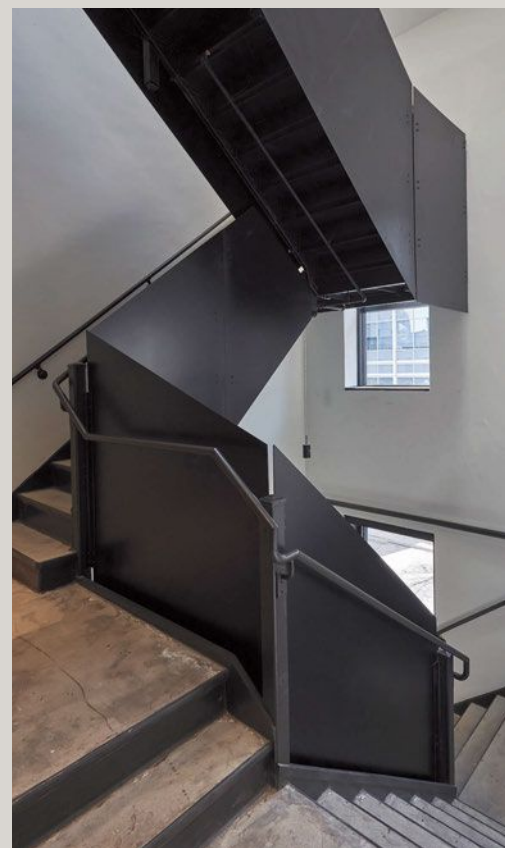
Although much of the character of the original building remained, including many exterior details, such as door and window lintels, roofline brackets, corbelling and exposed metal ties, previous renovation work had altered some significant elements and compromised



156 N. JEFFERSON has been an integral part of Chicago history. Built in the Italianate loft style for Crane Co. in 1865, the building was adjacent to the site of the Haymarket Square Riots of 1869 and survived the Great Chicago Fire of 1871.



THE NEW OWNERS SAW THIS BUILDING AS THE PERFECT OPPORTUNITY TO CREATE UNIQUE CORPORATE OFFICES WITH AN INDUSTRIAL LOFT FLARE.



the structural integrity of the building.

On the exterior, every other third-floor window had inexplicably been raised, cutting right through the arched stone lintels to the underside of the corbelled cornice. An arched carriage entrance at the south end had been bricked in and replaced with a standard window. The main entrance to the building led directly into the primary stairway preventing the building from being accessible. Removal of tension rods had left the timber structure unable to span without the help of temporary steel columns, as well as unable to support new rooftop loads.

The new owners of the building wanted to preserve as much of the existing building's historic character while providing a high-end corporate interior reflecting their private investment business strategy. They liked the fact that the building and location were not what is typically found in the corporate towers of the central business district. They thought this would lend itself to an industrial chic aesthetic, balancing raw, industrial elements with refined materials and sumptuous furnishings.

Core and Shell

It was an easy decision to restore as much of the original design on the building exterior as possible. To that end, new windows were provided, and the third-floor openings were restored to their original size with new stone arch lintels. The brick infill in the carriage entrance was removed and a full-width window provided, aligning with the large arched stone lintel above.

A new building entrance was needed, to make the building handicap accessible and to better reflect the scale of the building, combining two windows into a larger, single opening. A new entry canopy was designed of plate steel that projects out into the public right-of-way to create a sheltered arrival experience. The building address, 156, is cut out of the plate steel canopy on the exterior; its silhouette casting a shadow of the building address on the brick façade and sidewalk in the morning hours from April through September. The entry canopy continues into the lobby, defining the ceiling and folding down as a feature wall at the back of the lobby.

The floor was lowered in the lobby bay to allow access at street level, and a new elevator serves all levels of the building. The existing south stair, the former entrance to the building, was reconfigured and the unique masonry keyhole arch restored and made a prominent



UPHOLSTERED FURNISHINGS, EXPOSED WOOD ACCENTS AND WALNUT CABINETRY WERE USED TO OFFSET THE HARDNESS OF THE BRICK, STEEL AND WOOD STRUCTURE, AS WELL AS TIE THE INTERIOR DESIGN INTO THE CHARACTER OF THE HISTORIC STRUCTURE.



feature of the lobby. The opening created by the arch was infilled with fire-rated glass to allow the stair to be visually open to the lobby and natural light to pass through it. The old, inadequate wood railings were replaced with a folded steel plate guardrail that reflected the design of the entrance canopy, further tying inside and outside together.

The building's roof had steeply sloping structural members that allowed for significant height on one end but not on the other, and the third-floor space was lacking in natural light. To resolve this, a new industrial-style clerestory structure was provided through the roof, exposing the

timber and steel beams and columns, reinforcing the loft character of the structure and providing an abundance of natural light. Exposed steel channels were used to reinforce the timber beams.

In addition, a new 1,000-square-foot roof deck was provided to create a private and secure outdoor space with stair and elevator access. Because of the steep slope of the roof, new steel beams were used to span the entire depth of the building, relieving the insufficient structural capacity of the columns and footings by transferring the loads to the exterior walls. New rooftop units were supported in the same way.

Exterior masonry walls were cleaned

and left exposed. Windows facing the alley to the north that had been bricked up were reglazed. New windows were provided where possible to increase natural light, and new access points to the alley and shared loading dock were provided.

The basement was repurposed for building amenities, including a fitness room. New toilet rooms and HVAC systems were provided throughout, completing the core and shell renovation of the building.

Interior Design

The design and build-out of the interior spaces were specific to the desires and needs of the owners and their corporate

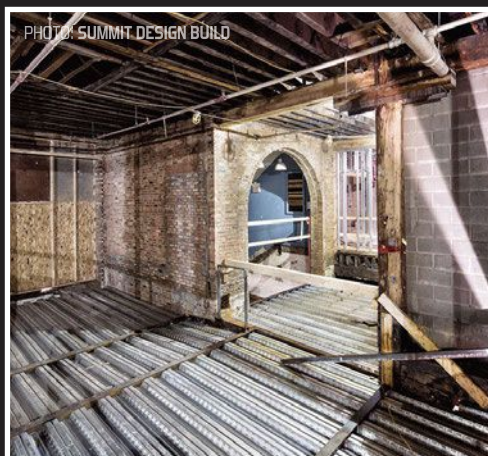


PHOTO: SUMMIT DESIGN BUILD



PHOTO: HIRSCH MPG LLC



PHOTO: HIRSCH MPG

Before | The design and build-out of the interior spaces were specific to the desires and needs of the owners and their corporate identity.



identity. Per Mike Shively, in loft buildings of this type, there is a lot of clutter from the exposed sprinklers, ductwork, conduit, raw brick, etc. But, as much as possible, there was a desire to expose and showcase what was original to the building. The grit and character appealed to the owners yet required the use of a tight palette of materials.

Because of fire-rating requirements, the ceiling decking was covered in drywall while the columns and beams were left exposed. This served the dual purpose of highlighting the best of the building's character while softening much of the visual clutter.

In terms of planning, many of the private offices were placed in the center with perimeter spaces used as casual conference spaces with glass walls allowing light into the center and sliding translucent-glass doors providing privacy or openness as needed at any moment. Although the building was designed and first occupied pre-COVID-19, the building has been able to follow state, city and CDC guidelines. While many of the tenants and employees have chosen to work remotely, the variety of workspaces has allowed for proper distancing and flexibility, especially important as more people choose to return to work in the office. The upgraded, light-filled, central stair has allowed people to avoid the elevator and walk between floors.

Upholstered furnishings, exposed wood accents and walnut cabinetry were used to offset the hardness of the brick, steel and

wood structure, as well as tie the interior design into the character of the historic structure. Huddle booths were provided with wood ceilings to maintain a more personal scale, but a circle was cut into the ceilings so hanging lights could slip through from the structure above and provide daylighting to those spaces.

The new industrial clerestory was used to further bring light into the space and an interior communicating stair ties together multiple levels in a more informal way. Linear sound baffles attached to the ceiling help acoustically while bringing pattern and shadow into the mix.

Embracing the Roughness

Renovating a historic pre-fire industrial building back to its former glory and providing a high-end interior for an investment banking firm may sound like contradictory goals. But, by always keeping both goals in mind and assembling a team of architects, interior designers and contractors with a client wanting something unique, both goals were achieved.

The interaction between the use of materials, like plate steel that penetrates multiple aspects of the design and utilizing the structure as a feature to be celebrated, not hidden, allowed for a high-end corporate office space to be blended with the rough and tumble origins of a former steel-pipe manufacturing facility. 

Retrofit Team

OWNERS // Promus Holdings LLC, www.promusholdings.com, and RDG Funds LLC, www.rdgfunds.com

ARCHITECT, CORE AND SHELL // Hirsch MPG LLC, www.hirschmpg.com

■ David Genc, AIA, design principal

ARCHITECT, INTERIORS //

Mike Shively Architecture, www.mikeshively.com

GENERAL CONTRACTOR // Summit Design + Build, www.summitdb.com

STRUCTURAL ENGINEER // Kibler-AE, www.kibler-ae.com

MEP-FP ENGINEER // The Engineering Studio Inc., www.engineeringstudio.com

CIVIL ENGINEER // Eriksson Engineering Associates LLC, www.eea-ltd.com

PERMIT CONSULTANT //

Cornerstone Permit Co., www.cornerstonepermit.com

Materials

CUSTOM WALNUT MILLWORK //

Landsor Inc., www.landsor.com

HUDDLE BOOTHS' LIGHTING //

Tech Lighting, www.techlighting.com

CUSTOM STEEL AND GLASS DOORS

// Summit Design + Build,

www.summitdb.com

FURNITURE // Corporate Concepts,

www.corpconc.com

BENCHES // Davis,

www.davisfurniture.com

ACOUSTICAL CEILING BAFFLES //

TURF, www.turf.design

CARPET TILES // Interface, www.interface.com

CUSTOM STEEL CANOPY // GCS

Steel Installers, (773) 823-1236

ROOF DECKING // Versadeck,

www.versadeck.com

FIBER CEMENT PANELS // Nichiha,

www.nichiha.com

TPO ROOF // Firestone Building Prod-

ucts, www.firestonebpc.com

ALUMINUM WINDOWS AND

STOREFRONT // PittCo Architectural

Metals Inc., www.pittcometals.com

FIRE-RATED GLASS AND

FRAMING // Technical Glass Products,

www.fireglass.com

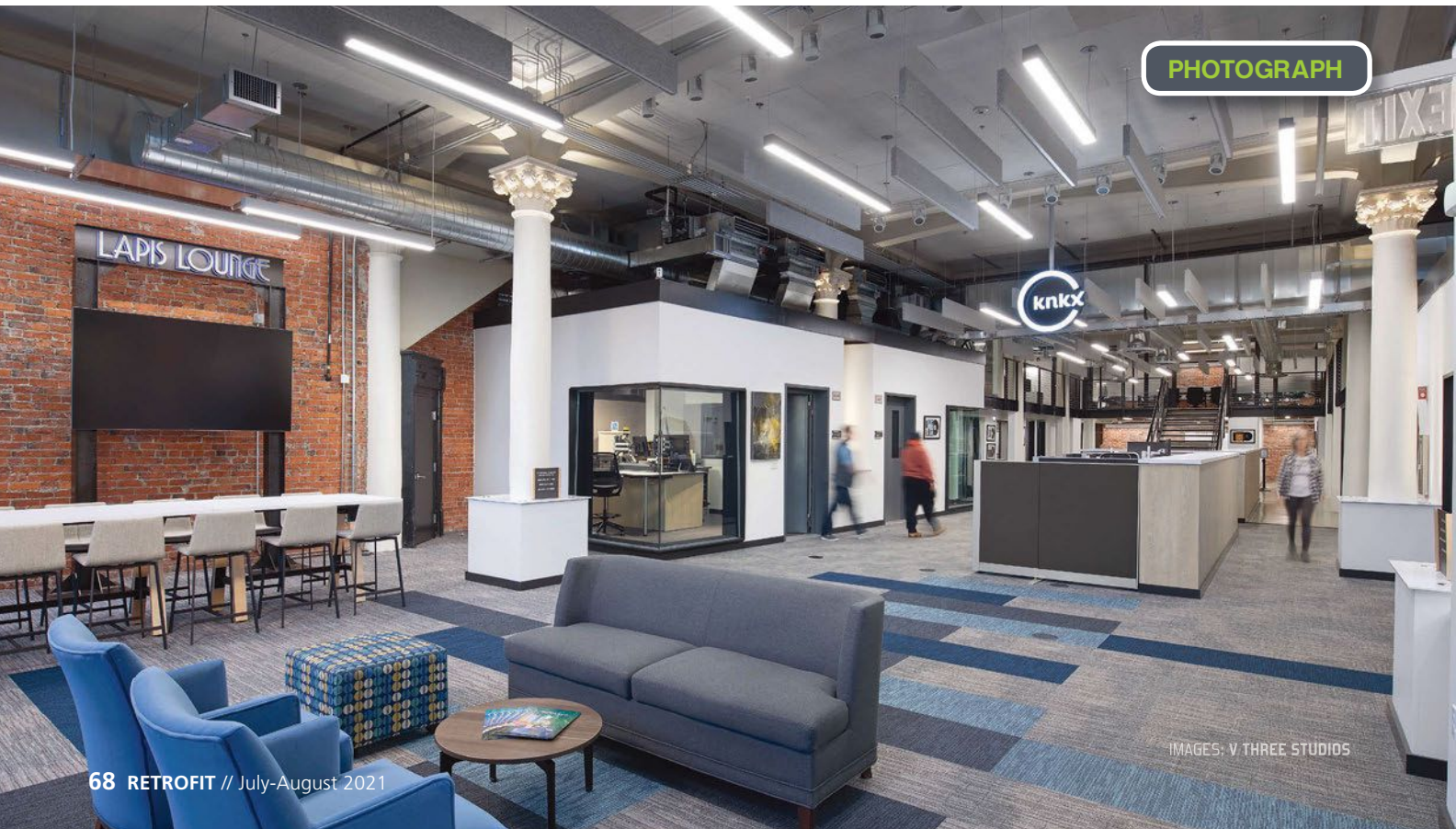
SKYLIGHTS // Skyline, www.skylites.com

ELEVATOR // Kone, www.kone.us



RENDERING

NEW REALITY



PHOTOGRAPH

AUGMENTED AND VIRTUAL REALITY BRING NEW DIMENSION TO DESIGN AND CONSTRUCTION

The concept of virtual reality has been the stuff of science fiction for many years. Going back as far as books, like William Gibson's 1984 novel, *Neuromancer*, or in films like "TRON" and "The Matrix", creative minds have imagined worlds entirely generated by computers and pondered what it would mean for humans to insert themselves and walk around in those worlds.

Technology has been slowly catching up to the storytellers, and virtual reality is no longer fantasy. For many years it was primarily limited to applications, like gaming and entertainment, but more and more, immersive virtual reality and its cousin augmented reality—technology that superimposes computer-generated images on a user's view of the real world—are finding practical applications in many professions.

"What started out as an entertainment feature or fun gaming experience is being innovated into an effective tool that companies across many industries can utilize," says Farris Wu, CEO and co-founder of San Francisco-based DecorMatters. "We are seeing more real-life applications of AR/VR technology and realizing the efficiency and power it brings."

For those working with the development and construction of buildings, VR and AR can provide incredible benefits, particularly in the planning and design phases.

"AR allows design to be done more efficiently and effectively," Wu continues. "It

helps you with everything from brainstorming ideas to planning a layout to visualizing the final look before you invest huge resources into development. It also helps digitize the entire design process, including seamless communication among clients, designers and contractors."

AR Versus VR

The terms **AUGMENTED REALITY** and **VIRTUAL REALITY** are often thrown around together, but what exactly is the difference? Basically, virtual reality is a fully immersive experience, where the user sees only a rendered digital image. Augmented reality, on the other hand, overlays digital enhancements or images over a real-life scene. VR completely replaces someone's field of vision, while AR enhances it.

There are practical design and construction reasons to step into the virtual world, but one of the most compelling ways AR/VR can change the game is by creating an accurate, interactive platform to show and share ideas and design vision.

"The primary use of AR/VR in our projects is as a communications tool," says Chris Mrozewski, architectural designer with V Three Studios in St. Louis. "It helps clients gain a much better understanding of the space and allows them to make

changes to the design long before construction has ever begun, saving time and avoiding costly changes down the road."

From 3D to Immersive

The idea behind virtual and augmented reality is really just a logical extension of what designers and builders have been doing for ages. After all, what is a drawing or blueprint if not a creative rendering of what a building can be? AR/VR technology simply uses technology to leap that idea forward, adding exponential layers of detail and engaging more directly with human perception.

For architects and engineers, 3D modeling has become standard practice in building design. Using technology to bring additional depth to drawings has already become accepted. This creates a ready foundation for AR/VR.

"V Three Studios develops a 3D model of every design, regardless of whether or not a client requests it," Mrozewski says. "The model gives us the opportunity to refine the design and ultimately deliver a more successful project. Depending on the software used, converting that 3D model into some level of VR imagery is relatively straightforward."

As the technology becomes more effective and accessible, building professionals are finding that the in-depth views and perspective that AR/VR can deliver can be extremely helpful to the design process—and a game changer in identifying issues before they happen.



V Three Studios developed 360-degree renderings for its design team primarily to understand how the design interacted with the complex broadcasting infrastructure required for the Seattle-Tacoma public radio station. The project occupies the first floor of the historic C.N. Gardner building in downtown Tacoma, Wash.



RENDERING



The 360-degree view of Takashima Record Bar in St. Louis provided V Three Studios' design team the ability to virtually inhabit and get a feel for the size and scale of the space. You can experience the 360-degree view at [bit.ly / 3pagQxc](https://bit.ly/3pagQxc).



PHOTOGRAPH

"Modifications in a building that will improve energy efficiency or decrease energy demand can all be visualized and planned through AR and VR," Wu says. "Executing the project will be much more efficient with precise AR models and the ability to instantly make adjustments and collaborate together on the design."

"These tools can help identify potential conflicts as early as possible in the design process. Plumbing, mechanical and structural systems often overlap in very complex ways that are difficult to fully express in a typical two-dimensional plan or even in a static 3D rendering," Mrozewski explains. "Having these systems modeled and

available in a VR environment can assist the contractors and installers in gaining a much deeper understanding of the interaction and location of these systems."

Technological Leaps

While AR/VR technology has existed for

(continues on page 72)

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BUILDING PROFESSIONALS AND INTERIOR DESIGNERS SHOULD USE AR / VR TECHNOLOGY TO ACCELERATE THE DESIGN PROCESS AND INCREASE PROFITS.

—Farris Wu, CEO and co-founder, DecorMatters

quite a while, early iterations of it now seem somewhat primitive in retrospect. Clunky, slow and expensive, it wasn't able to provide a level of detail that was useful to the design process. That has changed.

"The difference between what was available 10 years ago and what is available today is night and day," Mrozewski says. "From affordable wireless headsets to software that has streamlined the creation of imagery, the technology available today has allowed more designers to access the benefits of VR without needing a dedicated, high-end computer."

"There are still individuals and organizations using traditional methods in design, which include time-consuming meetings and costly virtual staging and mockups," Wu says. "Humans are on their devices now more than ever. Clients and customers are always looking for cheaper and more convenient methods, and technology provides that for them. Building professionals and interior designers should use AR/VR technology to accelerate the design process and increase profits."

"Retrofit projects are a perfect application for AR/VR," Mrozewski says. "While working on the National Blues Museum, we developed 360-degree renderings and loaded them into wireless headsets. The client was able to stand in a particular spot in the existing space and, through the headset, see the finished project from the exact same vantage point. That project was located in a historic building in downtown St. Louis, so it was a significant transformation. Using the VR headset, one could quickly see how we were incorporating existing building elements into the new design."

Closing in on the Future

Although AR/VR may appear to be a tool only for design and engineering, the technology has the potential to make big impacts all the way down the chain.

"I would love to see contractors using AR/VR in the field more before and during construction," Mrozewski says. "Most of the questions we receive during construction are due to items simply being overlooked on the drawings. If you look through a current set of architectural drawings, this is understandable due to the level of information we are required to convey. Every architect I've talked to that uses detailed 3D models and VR has agreed that if we could simply hand that model to the contractors, it would make everyone's job easier. This is still unrealistic for most projects today, but it does seem possible in the near future."



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The technology and uses for AR/VR have come a very long way, but there do remain some barriers to entry, including cost and time.

"AR/VR devices are still expensive for consumers, which slows the technology adoption," Wu says. "Building an AR/VR ecosystem can be expensive and risky, and developing AR models is time- and capital-consuming. Those looking to use AR might have a large expense at first."

"The obstacles to using AR/VR are being eliminated as the technology becomes more affordable and available, but some obstacles do still exist," Mrozewski adds. "Creating a 3D model that is detailed enough to work in VR takes a lot of time. With a static rendering, for example, you only need to fully model the elements that appear in a particular view. With VR, everything from every possible angle needs to be fully developed."

Even with a few immediate hurdles, AR/VR continues to develop and is finding greater levels of adoption.

"Many real-estate platforms are utilizing VR devices to scan houses and then put the virtual 3D house online for visitors to explore," Wu says. "It will continue to be used in real-life applications and continue to be integrated into the business models of companies of all kinds."

"Along with the National Blues Museum, we've used VR headsets to navigate the details and communicate the designs of many projects with our clients, including restaurants, breweries, universities, offices and private residences," Mrozewski says. "One recent example is a new Seattle-Tacoma public radio station, which occupies the first floor of the historic C.N. Gardner building in downtown Tacoma. We developed 360-degree renderings for our design team, primarily to understand how our design interacted with the complex broadcasting infrastructure required. It also gave us the opportunity to virtually inhabit and get a feel for the size and scale of a space, located 2,000 miles from our office."

As the technology becomes more sophisticated, fast and affordable, it's safe to assume AR/VR will become even more common to the design and construction practice.

"I'm looking forward to the future of AR/VR and the emerging developments that will give us more opportunities to make it part of our everyday design process," Mrozewski notes. "These include things like more advanced wireless technology, reduced headset size, eye tracking, foveated rendering and increased lens resolution. Providing an interactive VR experience may be more time-consuming at this point, but it gets easier with each software update." 

**“RETROFIT PROJECTS
ARE A PERFECT
APPLICATION FOR AR / VR.”**
—Chris Mrozewski, architectural
designer, V Three Studios

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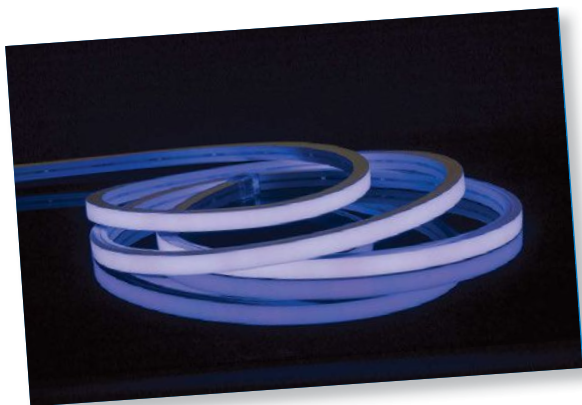
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← OUTDOOR LED TUBE FEATURES SILICONE BODY

PRIZM Lighting has released its Neoflux Pro-V Series. The flexible, direct view, outdoor LED neon tube with a compact 0.63- by 0.59-inch profile is available in single color and RGBW for customized interior and exterior lighting applications. With an IP67 rating for outdoor wet applications, PRIZM's Neoflux Pro-V Series features a durable silicone body that is UV-, flame- and saltwater-resistant. The single-color LED neon tube may be cut every 1.96 inches with a single-color maximum run length of 55.7 feet, and the RGBW LED neon tube is cuttable every 2.46 inches with a maximum run length of 16.4 feet. Neoflux Pro-V Series delivers a 120-degree beam angle while operating off 24 VDC power. The single-color LED provides 139 lumens per foot and only consumes 3.07 watts while the RGBW unit delivers 134 lumens and consumes only 4.57 watts. The tubes may be paired with most ELV, TRIAC and DMX dimmers.

www.prizmlighting.com/neoflux-series

↓ RESTROOM LOCKING DOOR HANDLE IS COMPLETELY HANDS-FREE



The Restroom UP LoK is a locking door handle that is completely hands-free. Eight years in development, the concept yields many of the sanitary benefits of a motorized door operator at a fraction of the cost. The Restroom UP LoK also has an integrated locked status indicator on both sides of the door, so the occupant and those waiting outside don't have to guess whether the door is locked. The Restroom UP LoK is designed with seven simple parts and easily retrofits on all standard-sized doors with 161 cylindrical lock preparation. The lock has passed Grade 1 cycle testing standards.

www.restroomlock.com

→ LOUVER CAN BE USED IN CRITICAL FACILITIES

The HZ700MD louver from Ruskin is a 7-inch-deep extreme performance louver that features a 4-inch horizontal front and 3-inch vertical rear louver. The HZ700MD was designed for applications needing a horizontal blade appearance but a vertical blade level of performance with Miami-Dade approval NOA No. 20-1201.01. The HZ700MD meets AMCA 550 and AMCA 540 standards for enhanced protection and has a low pressure drop, which delivers greater energy savings. It can be paired with equipment that requires high energy filters, resulting in improved air quality in critical facilities. The high-velocity wind-driven rain and Miami-Dade qualifications allow the HZ700MD to be used in essential facilities, such as hospitals and data centers, where high air quality is necessary in extreme weather.

www.ruskin.com/model/hz700md



↓ UNDERLAYMENT FEATURES ACRYLIC ADHESIVE

Boral Roofing LLC has released Boral Acrilay roofing underlayment, which combines SBS modified asphalt with a proprietary acrylic adhesive. A single-layer system, the new underlayment offers improved adhesion performance compared to options that incorporate asphalt-based adhesives. Additionally, the underlayment reduces installation time and the requirement for fasteners and other equipment, resulting in reduced labor costs and equipment maintenance. The underlayment is suitable for use with all Boral Roofing clay, concrete, stone-coated steel and composite roofing solutions, as well as under shingles and most steep-slope roofing materials. The underlayment is available in Texas and all western U.S. states.

www.boralroof.com/components/underlayment-products





← STONE VENEER REPLICATES THE LOOK OF RECLAIMED WOOD

Dutch Quality Stone has added Weathered Plank 4 and Weathered Plank 6 to its selection of traditionally crafted stone styles, colors and sizes. The appearance of knots, grooves, and nail holes within the grain are captured in the molding process to create interior accent walls, fireplaces, exterior façades and more. Weathered Plank 4 is designed with 4-inch-high planks while Weather Plank 6 offers 6-inch-high planks. Both planks measure 36 inches in length and are available in two color palettes: Winesburg and Industrial Grey.

dutchqualitystone.com

↘ ROOF DRAIN IS DESIGNED TO PROMOTE FLOW EFFICIENCY

Zurn Industries has launched its Z100 FloForce High Performance Roof Drain to meet code requirements and promote flow efficiency. The efficiency of the new drain is realized through a redesigned system geometry, which optimizes the flow at lower head depths. The FloForce is backed by data, so engineers can easily calculate the system's drainage requirements. The new drain was designed with the engineer, contractor, building owner and roofer in mind.

zurn.com/floforce



↓ OFFICE FURNITURE RESPONDS TO DEMANDS OF HYBRID WORKPLACES



Stylex is responding to the demands of the hybrid workplace with a new flexible space solution, Free Address 2.0. The modular furniture system maximizes space and carves out personalized areas. It includes higher sofa backs for more privacy and the ability for occupants to sit back-to-back while maintaining a safe distance. Taller table heights have been added to accommodate stools, along with more open cubbies and storage spaces. Casters add greater flexibility and ease of use. Designed for open-plan schemes, Free Address 2.0 offers the option to incorporate plant boxes within the furniture, providing healthier air and a mood-boosting design element. The furniture system offers a wide palette of powder-coat frame colors, upholstery styles and integrated power options.

www.stylexseating.com

→ STOREFRONT AND ENTRANCE SYSTEM PROVIDES THERMAL AND ACOUSTIC BENEFITS

St. Cloud Window Inc. has introduced its SCW4500SF Storefront and Entrance system, which incorporates advanced thermal strut technology to provide thermal efficiency and enable dual finish/color options. It also is engineered to deliver high acoustic attenuation. Doors are suitable for standard and ADA-compliant installations, operate on a continuous geared hinge that is fully adjustable yet minimally exposed, and accommodate most commercial hardware setups. The system can be configured with contemporary or historic architectural refinements to complete the design intent and is available as prefabricated units or factory-processed sticks for field assembly.

www.stcloudwindow.com



➔ LED STRIP LIGHT IS WET LISTED

PureEdge Lighting has launched its Saber SCS8 suspension LED low-voltage lighting system for the outdoors. Saber's 3D, wet-listed, suspended stream of light provides ambient illumination and features a rounded LED strip of light. The 0.75-inch-wide round lens offers color quality and performance while creating uniform illumination without pixilation. Housed within an unconventional silicone lens, Saber is tension-hung offering flexible installation. It bends up and down giving it the ability to traverse open spaces wall to wall, wall to ceiling, or floor to ceiling. Saber is offered in multiple color temperatures, RGB, RGBW and is also available in warm dim and tunable white to mimic the color temperature change experienced at sunset.

www.pureedgelighting.com



◀ DOOR HARDWARE OFFERED IN TITANIUM GRAY FINISH

Viaggio Hardware has added Titanium Gray as a finish option for its entire line of luxury door hardware, including the textured Motivo collection, interior and exterior sets, and coordinating deadbolts. Titanium Gray's warm undertones and blending of gray and bronze make the overall look a compromise for consumers who cannot decide between satin brass and matte black. Each piece is carefully crafted from forged brass using a time-tested process that eliminates defects or imperfections. The hardware is precision polished and then lacquered for durability. All Viaggio hardware is backed by a Lifetime Warranty.

viaggiohardware.com



⬇️ TILES AVAILABLE IN TRADITIONAL SIZES AND COLORS FOR VALUE PRICE

Crossville Inc. has launched the Multiplier mosaic tile collection, which provides traditional sizes and colors for easy floor and wall installations at a value price. Multiplier is available in three mosaic sizes—2-inch squares, 2-inch hexagons and 3/4-inch pennyrounds—all mesh-mounted for ease of installation. The collection comes in white, gray and dark gray, each offered in matte or gloss finish. Crossville's Multiplier tile line is recommended for interior floors, interior walls, exterior walls, pool and fountain linings, waterline for pools and fountains, and countertops.

www.crossvilleinc.com



⬆️ WALLCOVERING IS PVC-FREE

Versa Wallcovering has launched the 13th design in its collection of PVC-free commercial wallcoverings: Aspect. This design utilizes a new mid-scale emboss that gives the design visual depth and dimension, complemented by the muted tones in the 16-color palette. The geometric pattern within Aspect makes it a versatile option for indoor spaces in the hospitality, health-care, retail and corporate markets. Versa's PVC-free product line is constructed from an olefin composite and contains 20 percent pre-consumer recycled content. The wallcoverings are also free of antimicrobials, phthalates, heavy metals, PBDEs and formaldehyde. They are Prop 65-compliant and Red List-compliant. A Health Product Declaration is available for all 13 designs.

versawallcovering.com/pattern/aspect



↑ ELECTRIC STRIKE INCLUDES WIRELESS TECHNOLOGY

ASSA ABLOY has made available its HES ES100 Wireless Electric Strike, combining the features of the HES 1500 and 1600 Series electric strikes with Aperio wireless technology to provide an easy, affordable retrofit solution for remote control and monitoring. As the newest addition to the Aperio family of real-time wireless solutions, the HES ES100 concealed electric strike works in conjunction with the Securiton R100 surface-mounted reader to retrofit an opening with online access control using the existing lockset. Compatible with nearly all cylindrical and mortise latchbolt locksets, the HES ES100 wireless electric strikes feature interchangeable faceplates and accessories and have a modular construction for easy installation.

www.assaabloyesh.com/es100

↓ ACOUSTIC PENDANT MEETS WELL BUILDING STANDARD FEATURE L04



Focal Point's new decorative acoustic pendant Eave is designed with an 11-inch height and can be specified in 3- (direct only), 4-, 5- or 6-foot lengths. The luminaire's real wood end caps and canopies are made of rift-sawn white oak and are available in three colorations: White Oak, Amber Oak and Espresso Oak. Canopies are also available in White, Black or Titanium Silver painted finishes that will blend with the ceiling when a more discreet look is desired. Its light engine delivers up to 800 indirect lumens per foot with the choice of Lambertian or wide batwing distribution and up to 700 direct lumens per foot direct with a Lambertian distribution. Eave's regressed lens and larger aperture soften the incident luminance and glare to help meet the requirements of Feature L04 of the WELL Building Standard. Eave is available in a vast selection of PET felt colors.

www.focalpointlights.com/eave



↑ INDUSTRIAL BLOWERS DELIVER HIGH PRESSURE IN COMPACT DESIGN

Twin City Fan Cos. has launched a new series of industrial blowers under the TCF brand to be available immediately in North America. The new Extreme Pressure Blower series consists of three models—the TXP, TXR and TXS—which are the result of a joint development between Twin City Fan and its partner Elektror Airsystems in Germany. The new blowers in the TX Series offer efficiency in a compact design. The most modern development methods and decades of technical experience went into the manufacturing process.

www.tcf.com

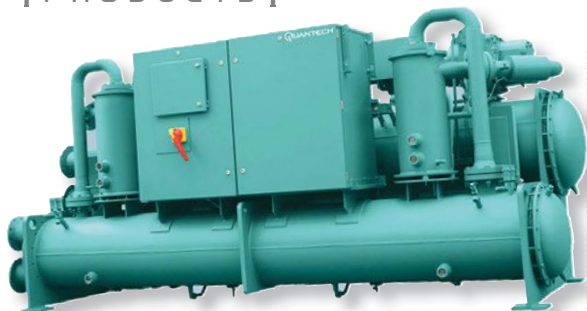
↓ WOOD SIDING CLIP RESPONDS TO EXPANSION AND CONTRACTION

Nova USA Wood Products Inc. has expanded its line of rainscreen siding clips with its ExoClad QuickClip designed with 6/6 ballistic-grade nylon. Lightweight and easy to handle, the clip is resistant to abrasions, dampens noise and offers enhanced thermal-bridging properties, which can reduce energy costs by minimizing the amount of heat transferred through the building envelope. Natural wood siding is likely to expand and contract as a result of seasonal changes in humidity. ExoClad QuickClip responds naturally by compressing to absorb the expansion. When the wood dries out, the hidden fastener system's design automatically moves the boards into place, centered perfectly and securely fastened to the side of the structure.

The fastening system is suited for hardwood and softwood siding.

www.novausawood.com





↑ CHILLER USES VARIABLE SPEED DRIVE TECHNOLOGY

Johnson Controls has added the Quantech QWC4 Water-Cooled Screw Chiller to its expanded chiller portfolio. The chiller uses variable speed drive technology to reduce energy costs and carbon emissions by as much as 30 percent when compared to traditional chillers. Throughout most locations, the variable speed drive saves energy during 99 percent of operating hours spent at off-design conditions, which include reduced load and/or reduced entering condenser water temperature. Because the Quantech QWC4 screw chiller is capable of handling a higher-pressure lift, it can be used in thermal-storage and heat-pump applications. The chiller utilizes R-134a refrigerant, which has zero ozone-depletion potential.

www.quantech-hvac.com

➔ BOILER CAN RUN AT PEAK PERFORMANCE WITHOUT MANUAL ADJUSTMENTS

Lochinvar has launched the CREST Condensing Boiler with Hellcat Combustion Technology, featuring RealTime O2 Trim. This combustion technology includes Feed Forward, Feed Back, Commissioned Trim and Learned Trim to allow the user to set tailored parameters, so the unit can run at peak performance around the clock without needing to make manual adjustments. The boiler's O2 sensor is exclusively designed for a condensing, hydronic boiler, and Lochinvar's SMART TOUCH operating control adapts to rapidly changing environmental conditions. The technology accounts for seasonal changes, shifts in weather patterns and altitude. The control platform records the optimal settings and logs that information and, when those same environmental conditions arise, the combustion system automatically adjusts. CREST boilers with Hellcat Combustion Technology come in eight models, ranging from 1 million to 6 million Btu per hour with up to a 25:1 turndown, a wave fire tube design and CON-X-US Remote Connect capabilities.

www.lochinvar.com/products/commercial-boilers/crest-with-hellcat-combustion-technology



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↓ **EARTH-TONED METAL PANELS WITHSTAND DISINFECTANTS**



Móz Designs has introduced 11 earth-toned Blendz Patina colorways that bring the look of naturally timeworn textures to commercial spaces using lightweight metal materials. Available in rusted copper hues, deep forest greens and moody grays, the colors appear antique while maintaining a smooth, easy-to-clean finish. Crafted with solid core aluminum, the new colorways are made to withstand disinfectants and high-traffic areas. Blendz Patina's 100 percent recyclable panels can be used as space dividers, walls, columns and in exterior applications. Solid core, corrugated and perforated sheets are available.

www.mozdesigns.com

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durasein.com/us/light-haze

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CAT HOUSE

More Cats Find Forever Homes because Passersby Can View Inside an Adoption Center



AFTER PHOTOS: BRIAN WANCHO



BEFORE

BEFORE PHOTOS: MNK ARCHITECTS

In the recent renovation of the El Paso Cat Adoption Center in Texas, MNK Architects relied heavily on a wire mesh pattern to execute center representatives' vision and mission of better promoting adoptions. The wire mesh pattern allows passersby to see the activity of the interior—the interactions between cats and potential adoptees—as well as underscores the unique Asian details of the adoption center, which was built in the early 1990s.

Inspired by the building's original design, MNK Architects' renovation built on the existing concept, further emphasizing the Asian design details. The wire mesh screen features the notable "Rising Sun" motif, which is symbolic of the rising of various cultures recognized in Asia—and also a nod to the varying breeds at the cat adoption center. Signifying the coming together of these animals from various regions, the "Rising Sun" also highlights the unity of El Paso, which is known as Sun City.

MNK Architects also utilized the wire mesh to provide safety and security for the cats. The mesh is a subdued way to accentuate and elevate the cats on display, provide natural daylight and airflow, and add to the unique Asian architecture of the facility. 

MNK Architects, www.mnkarchitects.com, specified Banker Wire's SJD-2 large woven wire mesh pattern to meet the El Paso Cat Adoption Center's mission of better promoting cat adoptions. Learn more about the wire mesh at www.bankerwire.com/products/sjd-2-architectural-woven-wire-mesh.



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