

january-february 2023 // retrofitmagazine.com

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2022 retrofit
TOP 25
PRODUCTS

*Path to Creativity:

A Global Advertising Agency's Headquarters
within a Former Warehouse Features a
Layout of Diverse Spaces + More Office
and Manufacturing Projects

SAATCHI & SAATCHI

*TREND ALERT:
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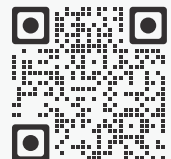


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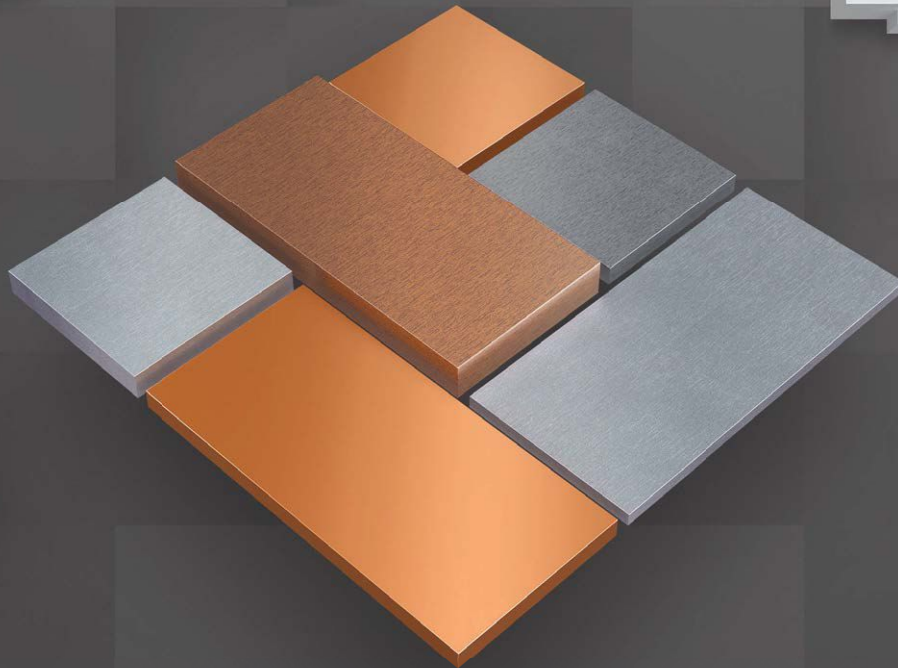
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COVER PHOTO: BRUCE DAMONTE

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RETROFIT // Vol. 14 // No. 1 is published bimonthly by Fisher Media LLC, 98 Booth Meadow Lane, Durham, NC 27713, (919) 641-6321. POSTMASTER: Send address changes to **retrofit**, 2409 High Point Drive, Lindenhurst, IL 60046.

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THE NEW WORLD OF WORK

I haven't worked in an office in years. In fact, I've probably only commuted to an office for seven of my 22 years in trade publishing—and those years were not consecutive.

Publishing has been a mostly digital business since the mid-2000s, so it has been easy to have an art director in one city—say Durham, N.C.—while the editor is in Chicago. When the 2008 recession negatively impacted the design and construction industries and, consequently the magazines serving those industries, many publishers made a cost-saving

decision to send staff home with equipment in tow to minimize the overhead of actual office space—and avoid layoffs.

I've become quite adept at prepping dinner, throwing in a load of laundry and answering contractor questions (during my recent home remodel) while taking an issue of this magazine to the printer. I certainly take advantage of the many benefits of working from home, like editing on our deck for as many days as the Midwest allows. Don't get me wrong: I'm still highly efficient. Publishing is very deadline-oriented and my life revolves around deadlines every single day. There's no slacking at my house!

Similar to how the 2008 recession sent many trade-publication staff members home to work, another crisis, the 2020 COVID-19 pandemic, sent nearly everyone home to work, attend school, hit the gym, etc. And in the ensuing years, the effects of the pandemic continue to be felt in the design of office spaces: We now know an office must be as comfortable as working from home.

Back when I worked in offices, none of them looked anything like our "Cover Story", page 34. The Los Angeles headquarters of Saatchi & Saatchi, a global advertising agency, looks like a place where you can show up in slippers, lounge on a couch with your laptop, convene with your colleagues to watch a client's ad campaign in the cozy media room and then end the day with a beer from the kegerator. There's not a cube farm in sight! If I had to work in an office again, I would happily carry my equipment to Saatchi & Saatchi's office space.

Contributing Editor Jim Schneider writes in "Business", page 28, that COVID ultimately accelerated flexible workplace trends that already had been percolating. More human-centric designs are becoming commonplace, allowing employees to do their best work in a way that's most comfortable to them.

In addition to comfy, flexible spaces, building owners are thinking about the health of their buildings: IAQ has become a top priority—as it should be while we continue to grapple with COVID. You may notice that many of our Top 25 Products, which are products that received the most clicks on our website this past year, assist with IAQ. See the "Special Report", featuring our 10th annual Top 25 on page 16. Then turn to "Component", page 60, to read about three HVAC projects that demonstrate energy efficiency and IAQ within three very different buildings

Because I've worked from home for so many years, my work routine didn't change when COVID hit. The only transition I had to make was adapting to Zoom and Teams meetings from old-fashioned, no-one-sees-me phone calls. Although I miss the days of no makeup and messy ponytails, I'm not yet relaxed enough in my work-from-home routine to avoid styling my hair and going barefaced on Zoom. Maybe in another decade though ...

CHRISTINA KOCH

Associate Publisher/Editorial Director
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Anywhere you see a video player icon, we've embedded a video in our digital edition of this issue. Visit www.retrofitmagazine.com and click on our digital edition in the top right corner. Then, flip to pages 13, 19 and 21 to watch videos that will give you more insight about the stories, products and ads you see in this issue.



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which employees can do their best work.

Kimberley O'Dowd is principal and architect for Blitz, the firm behind the human-centric office design for Saatchi & Saatchi, a global advertising agency in Los Angeles. Chosen as this issue's "Cover Story," page 34, Saatchi & Saatchi's headquarters is a prime example of post-pandemic office design: a variety of eclectic and comfortable workspaces in



Robert Siterlet is president of Thermal-Tec Roofing, a family-owned specialty roofing company. In "Component," page 54, Siterlet describes a proprietary roof re-cover system his crew installed on a foundry built in 1958. Its original transite—an asbestos-laden, cement-board material—roof was cracking and allowing moisture into the building. The re-cover system allowed the foundry to remain operating and avoided the costly and dangerous task of sending transite to a landfill.



Jeylen Arteaga (left) is an architectural associate and **Breann Nash**, RID, is the managing principal at AMB Architects. The pair write about their work on The Hub, a fully reimagined spec office suite and co-working space in the office tower above Houston's renowned shopping center, The Galleria. The dated '70s space now exudes an urban-chic vibe geared toward tenants who grew up in the digital age. Read the story in "Transformation," page 64.



Angela Samargia, CPM, RPA, LEED AP, is senior property manager for Butler Square, Minneapolis. The 1906 multi-tenant office building recently underwent a "Refresh" that upgraded the facility for tenants in the modern age while paying homage to the building's history, which has always focused on sustainability and wellness. Read about the Refresh in "Historic," page 70.



Alice Shay is principal and **Ubaldo Escalante**, AICP, is senior cities consultant with Buro Happold, a firm working at city and building scales with clients worldwide. The authors discuss the opportunities available for transforming "stranded assets," or defunct or underutilized infrastructure elements, into benefits for their communities. Read about their projects and ideas in "Trend Alert," page 76.



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A modern office interior featuring glass partitions and a wooden floor. The glass partitions are made of clear and frosted glass, creating a flexible workspace. In the background, there is a conference room with a large screen and several office chairs. The lighting is warm and ambient, highlighting the sleek design of the office.

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THIS YEAR'S TOP PRODUCTS POINT TO READERS' FOCUS ON IAQ

Products are an integral part of any trade publication. As such, **retrofit** is celebrating the 25 products that received the most reader clicks on our website from October 2021 through October 2022. During that time, **retrofit**'s staff posted approximately 700 products to the magazine's website, so the Top 25 are standouts.

"We consider **retrofit** a source for our readers to find innovative solutions and products for their own retrofit projects," says Publisher John Riester. "The Top 25 Products special in our January-February issue is a great resource to our readers, showcasing the products readers' peers thought were most interesting within the pages of **retrofit** and on our website."

Notably, many of the Top 25 happen to be products that will improve a building's IAQ. "As we continue to deal with the pandemic, indoor air quality has become and will remain an important part of buildings," Riester adds. "The IAQ products appearing in our Top 25 can be retrofitted into existing buildings, giving occupants peace of mind that returning to buildings and normalcy is possible."

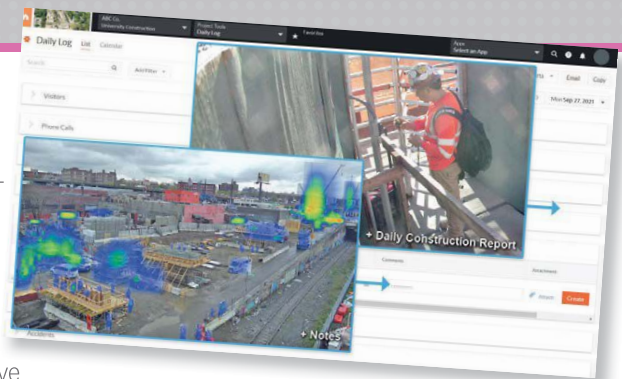
In addition, at the prompting of our editorial advisory board, we asked the manufacturers to share case studies about how their top products solved a problem or achieved the desired result within a retrofit. Although many manufacturers' products are fairly new, a few manufacturers were able to share actual retrofit projects in which their top products were specified.

Enjoy **retrofit**'s 10th-annual Top 25 Products!

1 INCREASE PRODUCTIVITY WITH AUTOMATIC VISUAL AUDITS

EarthCam has announced its fifth-generation integration with the Procore construction software platform. EarthCam unveiled advanced image automations that make daily reports more informative, keep workers safe and make project management more efficient. Using new AI object recognition technology, visual audits are automatically generated and sent to Procore, and a wide-range of live webcam imagery can be pushed to the platform, producing a real-time, single source of truth to drive productivity. EarthCam's comprehensive integration already supports the embedding of job-site photography in most Daily Log sections, including Weather, Inspections, Accidents, Safety Violations, Equipment, Waste and Photos. Now, EarthCam is fully automating several more sections, so that 100 percent of Procore's image-ready Daily Log entries can be augmented with actionable, high-quality video.

earthcam.net/procore



2 MOBILE PANELS ARE SOUND-ABSORBING AND -BLOCKING

Acoustiblok Inc. has designed a patented mobile solution to troublesome unsafe noise levels often found in industrial settings. Its new Industrial All Weather Sound Panels with Panel Carriage are uniquely constructed to be sound-absorbing (NRC 1.00) and -blocking (STC up to 37). A typical 15-decibel reduction after their placement is equivalent to a 65 percent reduction in sound as perceived by the human ear. This usually brings noise levels well below safety guidelines. The custom-built adjustable panels can be configured into numerous shapes and sizes to wrap around noisy machinery. They're suited for temporary or permanent workstations, heavy equipment or machinery, tools and more. In addition to effectively mitigating high-frequency noise, Acoustiblok membrane is also effective for low frequencies; the most difficult sound blocking problems are in the 30 to 100 hertz range.

bit.ly/3GVcpBi



Industrial settings require sound solutions that reduce noise levels and can withstand a tough environment. A U.S. manufacturing plant recently chose Acoustiblok's Industrial All Weather Sound Panels (IAWSP) with Panel Carriage (STC 30/NRC 1.00).

IAWSP with Panel Carriage were selected because they not only provide the sound mitigation needed, but also the mobility and flexibility required (including temporary projects). They are entirely welded aluminum, washable, 0-smoke/flame and hydrophobic. Water, moisture, humid salt air or saltwater, constant UV, chlorine air, grease, corrosion and harsh chemicals do not affect the panels.

The main objective was to minimize the noise stemming from tools and equipment utilized at workstations inside the plant, as well as heavy-equipment noise inside the manufacturer's testing room. The IAWSP were custom-built and resulted in a significant noise reduction in the surrounding areas where they were placed, which allows employees nearby to do their work quietly and safely.



3 LIQUID BARRIER CREATES DURABLE MEMBRANE ACROSS MULTIPLE SUBSTRATES

Georgia-Pacific has launched DensDefy Liquid Barrier, a fluid-applied, air- and water-resistive barrier. Once applied, DensDefy Liquid Barrier produces a seamless, durable membrane on exterior gypsum sheathing, wood sheathing, CMU and concrete walls. DensDefy Liquid Barrier works side-by-side with the DensElement Barrier System and ForceField Weather Barrier to provide a high-performance, highly durable WRB-AB system across multiple substrates, including DensGlass Gold Sheathing. Developed to help protect against water intrusion and mitigate the risk of unwanted air movement, the product cures quickly (even in wet conditions); is durable; and is vapor permeable, meaning it allows damp surfaces to dry.

www.densdefy.com



Constructed in the 1950s, Brentwood Elementary is a 90,000-square-foot, arts-focused school in Austin, Texas. After undergoing multiple renovations, school leadership decided to undertake a full-scale, modern renovation designed to improve the buildings.

As soon as the contractor's mockup to determine how the various products worked together was up for review, it became clear there was an issue: The liquid barrier product chosen for the project wouldn't adhere properly to the already installed integrated DensElement Barrier System sheathing from Georgia-Pacific. The contractor reached out to Georgia-Pacific for a solution. The timing was perfect; the DensDefy Liquid Barrier system was just coming to market.

The Georgia-Pacific rep visited the elementary school job site and shared product data about Georgia-Pacific's new

DensDefy Liquid Barrier and suggested making the change from the previous product to allow for quick installation and project continuity between the integrated WRB sheathing system and block wall structures on the project.

Knowing the crew was unfamiliar with DensDefy Liquid Barrier, the Georgia-Pacific rep was invested in the process every step of the way. This level of support made it easy for the crew to learn installation techniques and be comfortable with the product. Once all information had been thoroughly reviewed, the product was added to the mockup ahead of a full review by the drywall consultant on the project. Ultimately, with one system, backed by one warranty from Georgia-Pacific, all products received top marks from everyone involved with the project.

4 SLIDING BARN DOOR IS SUITED FOR PROJECTS WITH REPEATABLE UNITS

AD Systems has launched SuiteSlide, an economical single-source door assembly suited for commercial projects with repeatable units, including senior living, multi-unit residential and hospitality applications. The resilient surface-mounted sliding barn door system features space savings and sleek, modern design. To bring efficiency to the design and installation process and ensure compatibility among all customizable door components, SuiteSlide's door slab, specialty frame and commercial-grade hardware are procured directly from AD Systems. Providing ease of operation, the ADA-compliant SuiteSlide features self-closing and -latching mechanisms, a concealed sill guide and flush pull hardware. The standard "soft close" dampening system prevents slamming. Unique to this system, the custom frame extrusion features dual soft gasket seals that compress to ensure the frame is plumb, even in cases where uneven wall conditions are present.

www.specadsystems.com



5 SOLVE IAQ ISSUES IN BUILDINGS WITH PACKAGED AIR-QUALITY SYSTEM

Daikin Applied has upgraded its Rebel Applied with enVerid Sorbent Ventilation Technology (SVT), the industry's first packaged total-air-quality system that combines the benefits of sorbent media with a class-leading, configurable rooftop unit. Rebel Applied with SVT helps solve a variety of common indoor air quality issues in buildings. For example, when numerous individuals occupy a classroom or workspace for several hours, CO₂ levels rise steeply. This not only has a significant impact on air quality, but can affect occupant health and performance. The integrated SVT system from Daikin addresses this concern by removing CO₂, VOCs and other contaminants, using sorbent filtration that captures pollutants while allowing oxygen and water to pass through freely, resulting in cleaner air. And when applied using ASHRAE 62.1's IAQ Procedure, SVT provides the clean air changes needed for healthy indoor spaces, allowing building operators to decrease the volume of outdoor air needed and total cooling load of their facilities.



www.daikinapplied.com/products/rooftop-systems/rebel-applied

6 ERVs MEET VENTILATION REQUIREMENTS, IMPROVE IAQ

Mitsubishi Electric Trane HVAC US (METUS) LLC has introduced Lossnay RVX2, the next generation of Lossnay Energy Recovery Ventilator (ERV) units, helping building owners, engineers and architects meet ventilation requirements and improve indoor air quality. High-performance Lossnay RVX2 ERV units improve comfort and efficiency by repurposing heat from exhaust air stream to condition filtered outdoor air supplied for ventilation. Designed to save energy in commercial and light-commercial settings, Lossnay is a total heat-exchange ventilation system with a low-maintenance cross-flow energy-exchange core made of a specially treated, cellulose-fiber membrane for temperature (sensible heat) and humidity (latent heat) exchanges. The optional CO₂ sensor can help building owners and operators improve IAQ and save energy. In combination with the new remote controller, Lossnay RVX2 can automatically adjust fan speed between 25 and 100 percent depending on CO₂ concentration.

www.meta-hvac.com



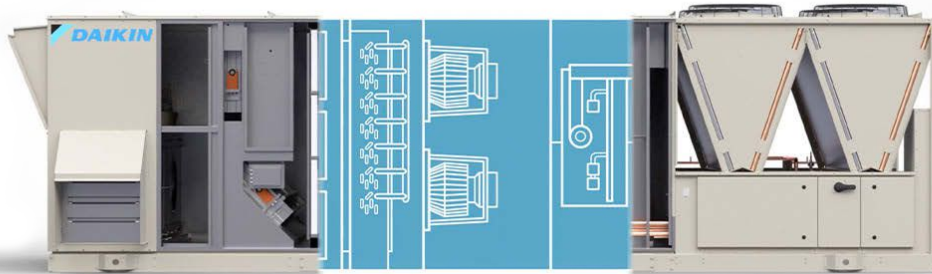
7 WINDOW A/C UNITS FEATURE MERV 13 FILTERS

Friedrich Air Conditioning Co. is turning "old school" window A/C unit technology into a sophisticated indoor air quality solution, especially for classrooms, health-care facilities and homes. Friedrich has released a MERV 13 filtration option for Kühl, one of the company's most popular lines of room A/C units, as part of Friedrich's new FreshAir IAQ accessories offerings. Friedrich Kühl window units with MERV 13 can deliver the level of filtration recommended by leading authorities—including the CDC, EPA and ASHRAE—to guard against the spread of infectious airborne particles, like COVID-19. MERV 13 filters are 85 percent or more effective at capturing particles down to 1 micron in size; COVID-19 virus travels on particles and nuclei between 1 and 6 microns in size. MERV 13 filtration also combats other IAQ problems, such as those caused by unhealthy outdoor air.

www.friedrich.com/consumer/products/window-air-conditioners



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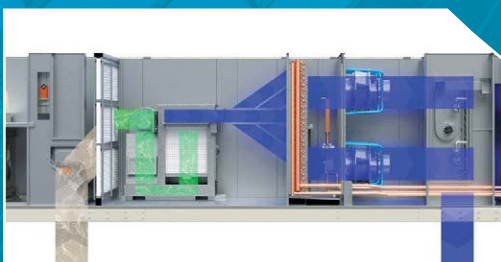


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Rebel Applied is an all-encompassing packaged rooftop solution that rises above its class with industry-leading high-performance design, maximum energy efficiency, lowest lifecycle cost, and unlimited configurability. It features a modular, high-performance cabinet design that is unique to the market and delivers a reimagined product solution that enables engineers and contractors to design around their exact application.

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When applied using ASHRAE 62.1's IAQ Procedure (IAQP), Sorbent Ventilation Technology (SVT) provides the clean air changes needed for healthy indoor spaces, allowing building operators to decrease the volume of outdoor air needed and the total cooling load of their buildings.

LEARN MORE AT [DAIKINAPPLIED.COM](https://www.daikinapplied.com) 



8 EVAPORATIVE HUMIDIFIER IS DESIGNED FOR HOMES HEATED WITH DUCTLESS SYSTEMS

AprilAire has introduced the Model 300 residential humidifier, a self-contained, whole-home, fan-powered evaporative humidifier for homes heated with boilers, mini-splits, radiant heat and other ductless systems, though it can also be installed in homes with forced air where limited space is available for installation. The new unit features 30 percent more capacity than the Model 350, AprilAire's previous-generation humidifier; Quiet Fan Technology; and an extended dry-time fan. This self-contained evaporative humidifier draws air through an evaporative water panel and the unit puts out 13 gallons per day, achieving heat for evaporation, using 120 F water and room-temperature air. The Model 300 is for homes up to 3,500 square feet (tight construction) and can be easily installed by joist- or wall-mounting in a basement, utility closet, laundry room or crawl space with access to water.

www.aprilairepartners.com/model-300-humidifier

9 SWINGING DOORS FEATURE EXPANSIVE GLASS

The reimagined Marvin Ultimate Swinging door and Ultimate Swinging French door G2 offer more expansive glass, allowing for more light and views. Available in inswing and outswing configurations, Ultimate Swinging doors are available in heights up to 10 feet with four-panel configurations in widths up to 14 feet with a standard panel thickness of 2 1/4 inches. They are clad in durable extruded aluminum exteriors that provide years of worry-free protection with warm wood interiors. The Ultimate Swinging door features square interior and exterior profiles, and the Ultimate Swinging French door G2 offers ogee interior and simulated putty exterior profiles. Marvin's concealed lock status sensor connects with smart-home technology, giving homeowners peace of mind that their windows and doors are securely closed and locked.

marvin.com/products/collections/signature/ultimate



10 PREFABRICATED RESIN-CAST SHAPES LOOK LIKE BRICK AND WOOD

Sto Corp. has re-engineered the classic look of brick and wood façades for buildings of all kinds with new prefabricated resin-cast shapes. StoCast Brick is comprised of custom-made resin-cast brick shapes that are lightweight, flexible, easy to apply, durable and sustainable. They are available in 30 standard brick options or project-specific colors, patterns and textures. StoCast Wood is a collection of lightweight, flexible, resin-cast wood-grain planks that delivers an authentic wood appearance. Designed with 45 different wood-grain patterns, StoCast Wood planks are easy to apply and can be stained with StoColor Wood Stain in a wide range of colors in a glossy or matte finish. They also can be coated with any of Sto's high-performance architectural coatings.

www.stocorp.com/stocast



11 HARDWARE ALLOWS POCKET DOORS TO WEIGH UP TO 400 POUNDS

Doors mounted on Johnson 200BP sliding bypass pocket door hardware can be any height, weigh up to 400 pounds each and be up to 2 1/4-inch-thick. The bypass hardware sets can be used with two doors or four doors ranging from 2- to 4-feet-wide each, which provides flexibility to cover a space from 4-feet to approximately 16-feet wide. There is no bottom track, so the floor is unobstructed. Equipped with a heavy-gauge, jump-proof aluminum track, ball-bearing door hangers and trackless door guides, the 200BP is suited for universal design in residential/commercial applications. The hardware set comes with everything except doors and exceeds ANSI standards, successfully completing 100,000 opening and closing cycles. Johnson Hardware's innovative soft-close feature is now available with 200BP. Sliding doors weighing up to 330 pounds each operate quietly and softly when installed with the 2066 Soft-Close kit.

johnsonhardware.com



12 PRODUCTS PROVIDE CONTINUOUS AIR AND SURFACE DISINFECTION



LumenFocus recently launched PathogenFocus, which utilizes Air Disinfection Biosecurity (ADB) technology and works with existing HVAC systems. The units are available in many different sizes for a wide range of building spaces. ADB technology provides 24/7 continuous air and surface disinfection and is scientifically validated to eliminate up to 99.99 percent of common pathogens (including SARS-CoV-2). In independent third-party testing, ADB reduced airborne viruses by 90 percent in 16 seconds and by 99.9 percent in 30 seconds. At the one-minute mark, aerosolized viruses are virtually eliminated, with an 8-log (99.999999 percent) reduction. ADB had similar success against bacteria. Airborne bacteria are 99.9 percent eradicated by ADB in under 60 seconds. On surfaces, bacteria are eliminated in 11-13 minutes. ADB also is effective in neutralizing molds and mildew. Scientific studies are available upon request.

pathogenfocus.com

13 NATURAL SLATE EMERGES AS A RAINSCREEN CLADDING MATERIAL

Traditionally used as a roofing material, natural slate now is emerging as a rainscreen cladding material. CUPA PIZARRAS has merged natural slate and rainscreen cladding to create CUPACLAD, a façade solution that reduces a building's carbon footprint. Slate is a natural material in which the production process does not require any chemicals or other harmful substances. Each piece is handcrafted and selected carefully to meet all quality requirements. The result is an effective and easy-to-maintain façade. CUPACLAD is available in four different systems, adapting to any architectural requirements. A team of experts is available for support through every step of the process. Natural slate rainscreen systems are a key element for buildings that want to achieve LEED certification.

www.cupapizarra.com/usa/rainscreen-cladding





14 SHINGLES ARE ENHANCED WITH ALGAE-FIGHTING TECHNOLOGY

GAF has enhanced its Timberline HDZ shingles with the addition of proprietary time-release algae-fighting technology offering homeowners more comprehensive protection for their roof. The time-release product is now standard on many of the shingles offered in GAF's residential product line, including ridge cap and visible starter strip shingles. GAF Time-Release Algae-Fighting Technology is comprised of specially engineered capsules that release copper steadily over time. Compared to more traditional copper-coated granules that can eventually degrade and become less effective, GAF's capsules are infused throughout with thousands of copper microsites for long-lasting algae-fighting power. GAF offers a 25-year StainGuard Plus Algae Protection Limited Warranty against blue-green algae discoloration on many of the company's most popular products.

gaf.com/stainguardplus

Located in Newburyport, Mass., this classic New England-style home is exposed to a barrage of icy North Shore storms with high winds. The home's location necessitated a quality roof that could withstand the harsh New England winters and the test of time while still offering aesthetic appeal. GAF Timberline HDZ Shingles with Time-Release Algae-Fighting Technology were installed to provide durable, warranted roofing shingles with design at the forefront. The shingles feature an industry-first technology to fight stain and discoloration that can come from blue green algae. Thanks to GAF's 25-year StainGuard Plus Algae Protection Limited Warranty, this home will now be protected with a quality roof for decades to come.

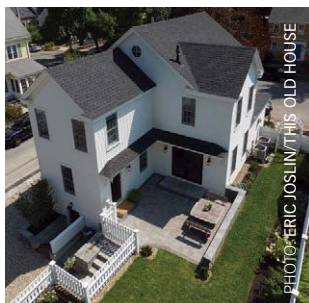


PHOTO: ERIC JOSLIN/THIS OLD HOUSE



PHOTO: MIKE CASEY/THIS OLD HOUSE

15 LED SHEET IS FIELD-CUTTABLE FOR BACKLIGHTING APPLICATIONS

Alloy LED has introduced the PrimaPanel Flexible LED Sheet, a fully modular and field-cuttable LED panel, providing even, hotspot-free illumination for indoor backlighting applications. The versatile sheet features vertical, horizontal and angle cutting lines for unlimited custom installations. PrimaPanel is 18.9-inches long by 9.45-inches wide and is less than 1-inch thick. The sheet features a high density of LED chips, contributing to a smooth distribution of light. The sheet is available in 3000K, 4000K, 5000K and 6500K correlated color temperatures with a 95+ color rendering index. The panel, which is dimmable down to 0.1 percent, depending on the compatible controller, can be mounted with its back adhesive tape or with nails or screws through the indicated areas between the cuttable sections. Up to seven sheets can be daisy-chained. The product is shipped with two interconnector cables, two adaptor splice connectors and installation screws. It is UL 2108 listed.

www.alloyled.com/products/linear-light/primapanel-flexible-led-sheet



16 FIBER CEMENT SIDING COLLECTION IS COLLABORATION WITH CHIP AND JOANNA GAINES

James Hardie Industries plc and Chip and Joanna Gaines, founders of Magnolia, are collaborating on an exclusive collection of Hardie siding and accessories: The Magnolia Home | James Hardie Collection. Meticulously curated by Joanna Gaines, the Magnolia Home | James Hardie Collection is available in the most popular Hardie siding styles—plank, shingle, and board-and-batten—as well as trim and soffit products to help complete the exterior. All products are pre-finished with James Hardie's proprietary ColorPlus Technology finishes, which include a variety of natural, earthy tones, including greens, beiges and grays. ColorPlus Technology finishes are baked onto the board to create a vibrant, consistent finish that is engineered to resist fading or discoloration from UV rays and includes a 15-year limited finish warranty.

www.jameshardie.com/magnolia



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GAF

¹ 25-year StainGuard Plus[™] Algae Protection Limited Warranty against blue-green algae discoloration is available only on products sold in packages bearing the StainGuard Plus[™] logo. See GAF Shingle & Accessory Limited Warranty for complete coverage and restrictions, and qualifying products.



17 WALL TILES DO NOT REQUIRE GROUT

ACP LLC has introduced Palisade WaterprooF, Grout-Free Tiles. The tiles' interlocking edges make them easy to install onto nearly any surface with adhesive. The tiles are easy to cut to size with a saw or utility knife and can be applied to wallboard, existing tiles and other smooth surfaces. Because they are water-repellent and resist mold and mildew, they're suited for wet areas in baths, kitchens and basements. Palisade tile installations are also less expensive than traditional tiles, which often require a contractor and grout or special tools. They're easy to keep clean, are 100 percent recyclable and can be taken to any plastic recycling facility. Each Palisade tile is 5-millimeters thick and consists of a rigid-core board covered with realistically printed multi-colored film and a protective top layer. Each small-format tile measures 23.2-inches long by 11.1-inches wide; large-format tiles measure 25.6-inches long by 14.8-inches wide.

palisade-tiles.com

18 NEW SIDING COLORS ARE INSPIRED BY NATURE

Westlake Royal Building Products has added five new on-trend colors to its Royal Siding and Exterior Portfolio vinyl siding lines. Inspired by colors found in nature, the newly added colors in tones of gray, blue-gray, brown and green, reflect the latest trends in modern exterior home design. Royal Siding and Exterior Portfolio's wide range of colors are informed by leading residential architects and design trends. Both lines feature Chromatix technology color protection to resist fading. Exterior Portfolio includes shades in SmartStyles Premium and SmartStyles Expressions while Royal Siding's palette includes Colorscaapes Premium and Colorscaapes Dark. The three new Exterior Portfolio colors are Stone Harbor, Spruce and Smoky Ash. The two new Royal Siding colors are Silver Mist and Riverway.

www.royalbuildingproducts.com



19 ACOUSTIC PANELS OFFERED IN TWO ADDITIONAL SOLID COLORS

Kirei has announced two new solid-color offerings—Cinnamon (167) and Slate (447)—to its collection of 12-millimeter-thick EchoPanel acoustic panels by Woven Image. These calming mid-tones apply to many spaces, including personal offices, conference rooms, lobbies, classrooms and retail stores. Channeling the warmth of autumn, Cinnamon's earth-tone orange supports quiet contemplation while infusing subtle energy. Inspired by the dusky hues of moonlight, Slate's deep, neutral gray exudes

celestial strength and comfort. This versatile tone is suited for larger personal offices and conference rooms, requiring calming hues with a side of sound absorption. Cinnamon and Slate join 31 solid-color options in EchoPanel's 12-mm series, as well as EchoPanel's pattern repeats: Frequency, Hex, Tilt, Trapeze, Trio and newly added Astro.

www.kireiusa.com



20 DECK CLIPS OFFER 90-DEGREE INSTALLATION PROCESS

MoistureShield, a division of Oldcastle APG, a CRH company, announces the MoistureShield Aegis Clip, offering a 90-degree installation process for grooved boards, designed to be used on wood- or steel-joist systems. Made from glass-reinforced polypropylene for lasting strength and durability, Aegis Clips feature beveled edges and pre-inserted screws with teeth that fit into the groove to help control lateral movement. The 90-degree installation process makes installing and replacing boards easy with a tight fit for added stability and consistent 3/16-inch spacing between deck boards. Aegis is backed by a lifetime warranty against loose deck boards. With Aegis, deck builders can choose the type of screws that work best in various environmental conditions with the option of carbon or stainless-steel pre-inserted screws.

www.moistureshield.com/products/hidden-deck-fasteners/aegis-clip

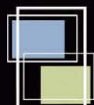
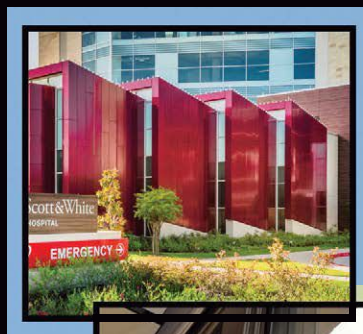
21 GAIN ACTIONABLE INSIGHT ABOUT IAQ IN UP TO THREE SPACES

Carrier is offering the Abound Healthy Air Starter Package, which provides a simple, quick, and cost-effective way to monitor, visualize and react to the unseen components of indoor air quality, helping support occupant wellness. The package can be installed in half a day and provides real-time monitoring of up to three different spaces, approximately 30,000 square feet. It is suited for lobbies, small conference rooms, entrance areas and open offices in any type of building; it also can be easily scaled to building portfolios of any size. The starter package includes wireless, battery-operated IAQ sensors that measure six components of indoor air and environmental quality that are critical to occupant wellness—carbon dioxide, particulate matter, volatile organic compounds, radon, temperature and humidity. The sensors connect directly to the cloud through cellular hubs, where all the IAQ data is pulled into the Abound interface.

abound.carrier.com



High Performance Acoustics



st. cloud window

stcloudwindow.com



22 RUGS ARE MADE FROM MOSAIC TILE

Artaic has introduced the Lasting Rugs collection, which blends two ancient, intricate artforms while honoring the beauty of mosaic and rug design. The durability of the mosaic tile paired with the brand's proprietary robotic technology allows for the decorative style of the woven artform to last a lifetime without typical wear and tear. The collection is available in all of Artaic's tile offerings—Vitreous Glass, Natural Stone, Glazed Porcelain and Sintered Glass—and offers several bespoke designs within each of the three categories, including traditional, contemporary and eclectic; all can be customized by tile type and colorway. As a tile medium, Lasting Rugs can be installed on a wide range of surfaces, including floors, walls, ceilings, pools and exterior façades.

www.artaic.com

23 ELEVATOR IS OPTIMIZED FOR 2- TO 4-STORY BUILDINGS



KONE has announced KONE MonoSpace 300, an affordable elevator solution optimized for 2- to 4-story buildings. KONE MonoSpace 300 is a machine-room-less traction solution that fits inside a traditional hydraulic elevator footprint. During installation, there is no need for temporary work platforms, block-outs or machine rooms. The solution's efficient installation methodology saves elevator construction time and helps keep the project on budget. Because the elevator controller is located in the top-floor's door frame, there is no need for a separate control closet to air-condition. For single-car installations, hallway controls can be integrated into the elevator doorframe, reducing coordination with other trade professionals and simplifying the installation. A KONE Care elevator maintenance agreement includes the benefits of KONE 24/7 Connected Services, an add-on service, which allows KONE's teams to better predict issues and helps them take action before a potential problem occurs.

www.kone.us

24 FLEXIBLE STORAGE SOLUTION MEETS NEEDS OF HYBRID WORKPLACES

Hollman Inc. has released its Acoustic Locker Collection, which was developed in collaboration with Gensler. The collection pairs sound-blocking and -absorbing design with smart locking technology from Vecos for a flexible storage solution that meets the needs of today's hybrid workplaces. The lockers have a 0.31 NRC rating. Antimicrobial Nanolam surfacing prevents the growth of mildew and mold. The locker exteriors sport a sharp diagonal pattern; interiors have integrated acoustic panels that double as personal display space. Vecos' smart locking and remote management technology built into every locker provide secure, hassle-free, self-service storage. Badge- and smartphone-based identification and remote management solve the problems of lost keys and forgotten combinations and locker "claiming" behavior, as well as allow easier monitoring and IT integration.

www.hollman.com





25^{LOW-PROFILE} PANELS PROVIDE RADIANT HEATING AND COOLING

Therma-HEXX has launched high-performance ThermaPANEL modular hydronic radiant heating and cooling systems for new and

refurbished residential, commercial and industrial applications. The new interior system is environmentally friendly, improves efficiency and saves space and money.

It is built upon the proven ThermaPANEL, which has evolved into a reliable and durable product during 13 years in extreme exterior applications. Evenly distributed heating and cooling is achieved through low-profile panels located in the ceiling or in the floor when used for heating-only applications. Coupled



with a high-efficiency electric heat pump, hydronic fluid is evenly and turbulently distributed throughout the individual panels in integrated, thermoformed micro-channels that enable even cooling and heating. The technology provides approximately 30 percent greater efficiency than forced air systems. Made in the U.S., the patented aluminum ThermaPANEL-TRAK system offers

an easy, snap-together installation for any surface, framing system or suspension system and provides for the direct attachment of drywall or other surfaces.

www.therma-hexx.com



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THE EVOLVING OFFICE

Post-Pandemic Office Trends Lean into Flexible Spaces and Hybrid Functionality



PHOTOS: JASPER SANIDAD unless otherwise noted

WRITTEN BY | JIM SCHNEIDER

The form and function of the office is always in flux. Driven by several factors, including productivity, comfort, health, economics and aesthetics, offices are always a reflection of larger trends among workforces and corporate management. After all, the goal of the office is to bring people together in a comfortable way that promotes productivity. Long gone are the days where offices were just stale boxes to house employees. Companies today understand the need to create environments that attract and retain the best talent for their firms.

Just a few years ago, the primary discussions in office design centered around creating the best open office environments that encourage collaboration among employees. Then, in 2020, a major disruptor occurred: the COVID-19 pandemic.

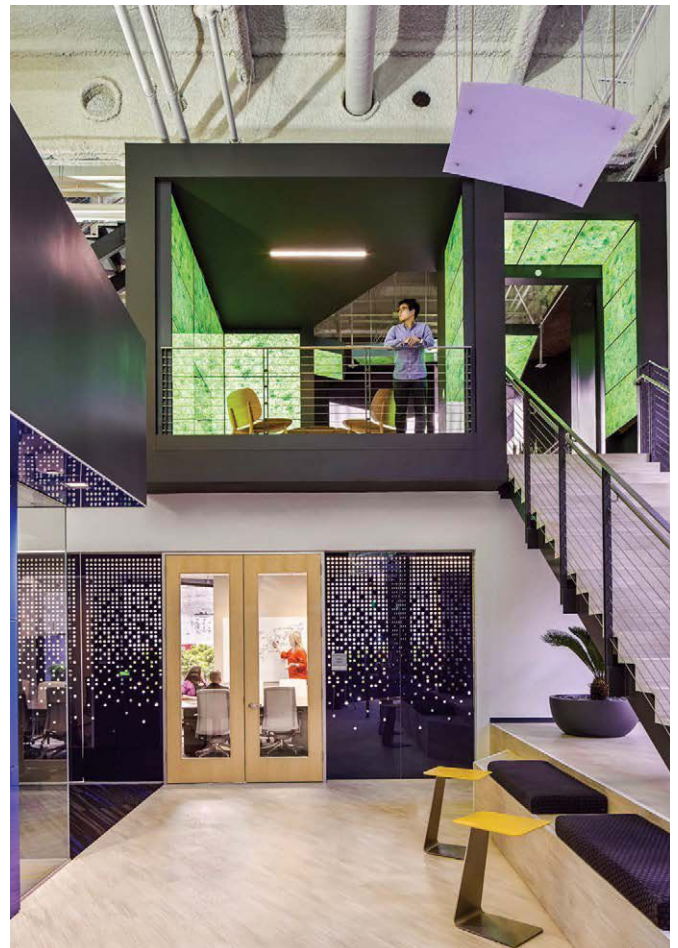
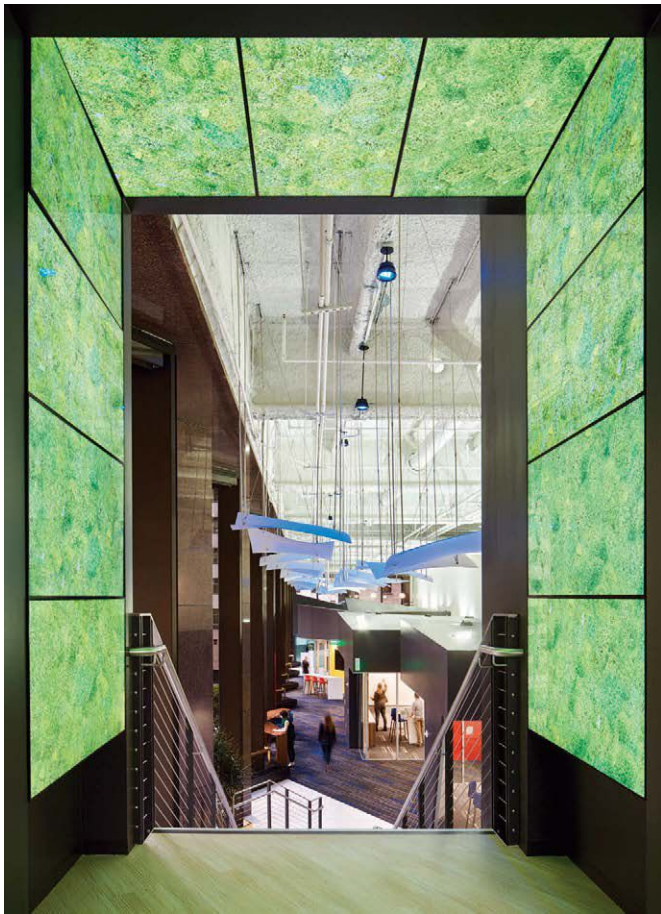
“All the data prior to the pandemic showed a steady increase in workplace flexibility, remote and hybrid-remote work over the past 50 years,” explains Kaleem Clarkson, COO of Blend Me Inc., a consulting firm focused on improving the remote employee experience. “Remote work in the U.S. prior to the pandemic was roughly 5 percent of the workforce, and during the pandemic it rose to nearly 50 percent of the workforce. Many policies, tools and resources

were quickly implemented.”

Even though some of these trends were already percolating, when COVID arrived companies quite literally had to shift their processes and protocols overnight to enable employees to work from home. Entirely new networks and systems came into being, and ways of doing business changed. With those changes also came a shift in employee expectations and needs that took hold during the height of the pandemic and are still a force today.

HOME OFFICE

It’s clear that things aren’t going back to the way they were before COVID, and the nature of the office is once again up for discussion.



PHOTOS: BRUCE DAMONTE

COVID accelerated workplace trends that were already in motion. Many of these originated with technological developments that allowed for greater flexibility in the way we work. Others emerged from the paradigmatic shifts related to younger generations entering the workforce and bringing new ideas, as well as updated priorities regarding work-life balance and preferences for where and how they work.



“COVID accelerated workplace trends that were already in motion,” says Sarah Bay, director of Interior Design with three/cura interiors. “Many of these originated with technological developments that allowed for greater flexibility in the way we work. Others emerged from the paradigmatic shifts related to younger generations entering the workforce and bringing new ideas, as well as updated priorities regarding work-life balance and preferences for where and how they work. The pandemic encouraged reflection and consideration about the value of spaces we inhabit and our desire to spend time in more comfortable, supportive environments.”

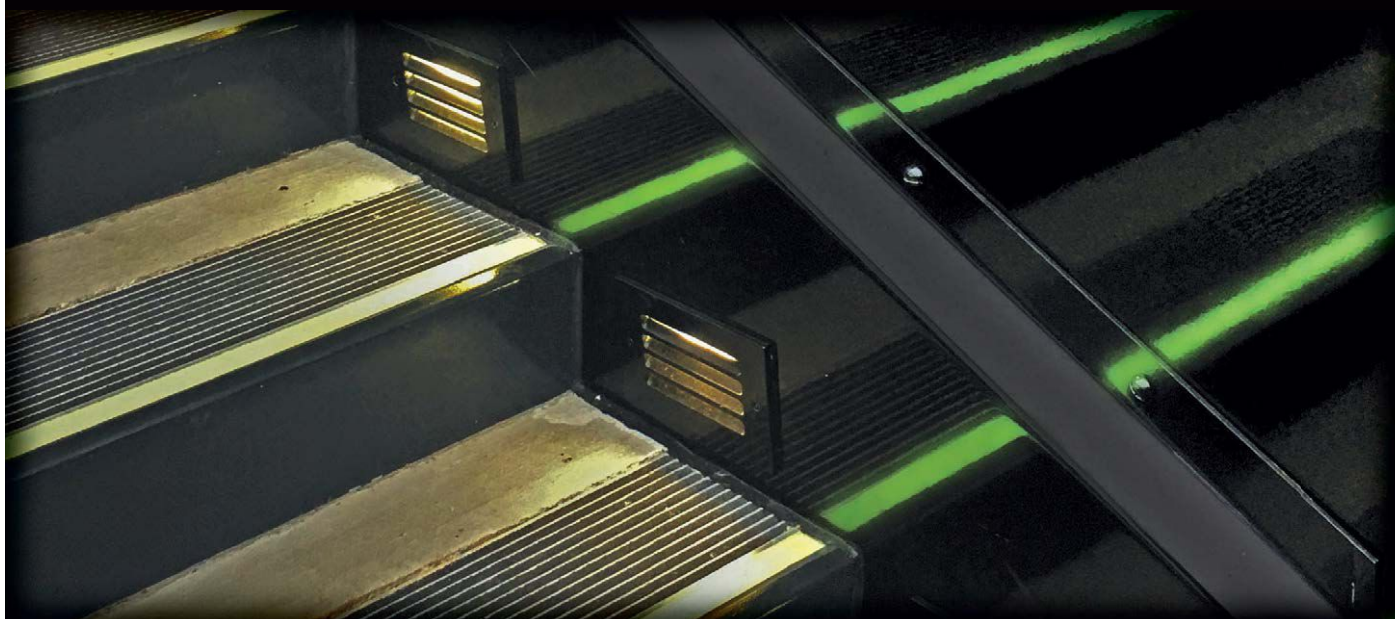
This idea is shared by Byron Morton, vice president and co-head of Leasing at THE MART in Chicago, the world’s largest commercial building and host to NeoCon, an annual convention for the commercial interiors industry. “What has really come to the forefront is how design can reinforce and support the importance of the office as a place for teams to gather and collaborate,” Morton says.

“Work from home has made many of our clients rethink their needs and the amount of space they require,” explains Andy Holub, vice president and director of preconstruction and special services with Clune Construction. “We now have more uncertainty about who will be in the office each day. This has shifted the planning to more flexible seating arrangements with an open environment over the traditional concept of the perimeter office with fixed seating. The office is now more of a place to ‘touch down’ and have periodic in-person collaboration than it is a place to come and work each day.”

“I think COVID had the power to create a real revolution in the workplace and necessitate a more human-centric approach that is now the norm,” says Melissa Hanley, AIA, co-founder and principal of Blitz, a multidisciplinary architecture firm. (View Blitz’s office design work in this issue’s “Cover Story”, page 34.) “One size does not fit all. Employers need to offer employees more choices in terms of how, when and where they work. They also need to provide

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employees with the right tools and the right environment to allow this flexibility. Task-based hybrid work gives people the ability to work wherever they are most productive for any given task. It's about empowering the employee to do their best work in the way that is best for them."

ADAPTABLE SPACE

As flexibility becomes the order of the day, owners and designers must approach office construction and renovation with different goals in mind.

"We are seeing a reduction in individual desk space with an increase in shared or hotdesking options, as well as comfortable ad-hoc spaces," says Clarkson, who recently organized a summit on hybrid work strategies with hotel company citizenM. "The open-office concepts are being broken up and the use of phone booths for private conversations has dramatically increased."

"The open-plan movement had great intentions to break hierarchical structures and encourage collaboration," Hanley explains. "But many of these spaces were

not executed well and didn't take into account privacy and different work styles, needs and preferences. Instead of one open layout, the most effective workplace environments incorporate a diversity of spaces for different kinds of tasks and individual ways of working."

"Owners are factoring in the changing needs in real estate related to the rise of remote work," Bay says. "Companies embracing a hybrid approach long-term most likely want to reduce square footage and redesign their office spaces to

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PHOTO: COURTESY CLINE CONSTRUCTION

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THE OFFICE OF THE FUTURE HAS AN INCREASED EMPHASIS ON A BALANCE OF COLLABORATION AND QUIET WORK WITH AMENITIES, LIKE LOUNGE SEATING AND HUDDLE SPACES, TO CREATE A SENSE OF COMMUNITY FOR EMPLOYEE GROUPS.

— Sarah Bay, director of Interior Design, three/cura interiors

”

accommodate a variety of work styles. The open office is still desirable, although it's starting to look different than it has over the last decade. The office of the future has an increased emphasis on a balance of collaboration and quiet work with amenities, like lounge seating and huddle spaces, to create a sense of community for employee groups.”

PEOPLE FIRST

These changes and trends are recognition that the focus in office design needs to be on people more than on the building and the systems within. The structure should serve the occupants, not the other way around.

“People-first design is more important than ever,” Morton says. “This was particularly evident at NeoCon 2022 as leading manufacturers showcased innovative solutions to promote employee satisfaction, comfort, and productivity—from ergonomic and tech-integrated modular and adaptable furniture to enhanced collaborative tools and products that support neurodiversity, biophilia and wellbeing.”

The COVID pandemic also underlined the importance of good indoor environmental quality in the design of office spaces. To encourage people to gather and collaborate, these spaces must first make occupants feel safe and healthy.

“People have a greater awareness about the impact indoor air quality has on health and wellbeing, and companies and their designers are responding,” Bay says. “Air purifiers with ultraviolet germicidal irradiation systems can be used in office spaces to purify the air. These systems started being used during the pandemic and should be considered a priority, even post-pandemic. The air-filtration systems remove microscopic pollen and allergens, bacteria and mold, chemicals, odors and gases, all of which can

impact people's health and how they feel in the environment. Beyond employers, this is something building owners need to prioritize, as well.”

LESS IS MORE

Although the office of the future will almost certainly be a healthier, more comfortable and inviting space, the fact is that remote and hybrid working conditions will likely continue and companies may become more targeted in their office space design. Quality, rather than quantity, is the focus.

“We bid a seven-floor project for a client at the beginning of the pandemic,” Holub recalls. “It was held for over a year and when it came back, they decided to go with two floors only, break away from the traditional planning and focus of the open collaborative environment. This was something out of the ordinary for them, but it really worked to their advantage. The space is one of the coolest environments I've seen built and the employee survey results were incredible. Almost everyone who completed it said they'd come back to work in the new environment, even with the option to work at home.”

As companies right-size their physical footprint and build efficiencies around office, remote and hybrid work, we'll likely see increased attention on utilizing less space but making it as inviting and productive as possible.

“We are working with a sock manufacturer out of Manhattan that transitioned to a hybrid-remote company where employees are only required to go to the office once per week,” Clarkson says. “Because of this change to hybrid, the company was able to move to a smaller office space, reducing their monthly lease cost. Startups and small businesses are the ones where we will see more reduction in office space due to the cost savings.”

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A METAPHORICAL GARDEN

WRITTEN BY | KIMBERLEY O'DOWD

A Global Advertising Agency's Headquarters within a Former Warehouse Features a Layout of Diverse Spaces Connected via a Meandering Path

PHOTOS: BRUCE DAMONTE unless otherwise noted



When global advertising agency Saatchi & Saatchi was looking to transform 80,000 square feet of warehouse space in Los Angeles into its Southern California headquarters, the firm's leaders turned to pioneering design and architecture firm Blitz to make it happen. Known for designing human-centric offices and multidisciplinary spaces for leading companies around the world, Blitz had the skillset to deliver a forward-thinking, inspiring, and user-focused environment worthy of the brilliant Saatchi & Saatchi team.



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A DOSE OF MID-CENTURY MODERN,
THE ARCHITECTURE IS SIMULTANE-
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WOMEN AT THE FORE

In the design and construction industries, it's rare for a project team to be led mostly by women; women make up only 17 percent of registered architects and 10.9 percent of contractors. Defying the odds, from the client to the designer and contractor, the entire leadership team on the Blitz and Saatchi & Saatchi fronts was made up of women. This unique collaboration fostered a distinctly human response to the space, with an emphasis on the user experience and delivering warmth, comfort, and moments of sparkle and delight.

"A highly creative and competitive advertising agency needs an inspiring and energized space that celebrates ideas through their development. As fellow creatives, the Saatchi & Saatchi team were a huge part of the design process—and this wasn't just the purview of those in senior leadership roles," remarks Melissa Hanley, AIA, co-founder/principal of Blitz. "We conducted a number of pre-planning surveys, interactive visioning activities, and breakout sessions with employees and other stakeholders to achieve an environment that empowers and nurtures the team and inspires them to produce their signature superlative work. Lalita Kohler [Saatchi & Saatchi's CEO] and I were immediately in sync with one another stylistically. It's not often that I get to work with a client who not only has such a refined sense of taste, but also the language to communicate that taste to the design team. Working with her was like having a natural extension to our design team."



RETROFIT TEAM

ARCHITECT, INTERIOR DESIGNER, ENVIRONMENTAL GRAPHICS AND INTERIOR LANDSCAPE DESIGNER // Blitz, www.studioblitz.com

- Melissa Hanley, AIA, principal in charge, lead designer
- Kimberley O'Dowd, project manager
- Riz Walker, lead interior designer
- Tamara Roth, interior designer
- Seth Hanley, AIA, L.A. managing partner, technical lead
- Justin Beadle, project architect
- John Hunter, AIA, specifications

GENERAL CONTRACTOR // Clune Construction, www.clunegc.com

MEP ENGINEER // ARC Engineering, arceng.net

STRUCTURAL ENGINEER // Degenkolb, degenkolb.com

LIGHTING DESIGNER // HLB, hlblighting.com

ACOUSTICAL CONSULTANT // Veneklasen Associates, www.veneklasen.com



A GARDEN OF IDEAS

As the Blitz team dove into Saatchi & Saatchi's world and learned more about how the marketing teams develop projects, it became clear that the creatives needed a safe space to build and break and rebuild ideas and concepts before formally pitching to their project leads. A workspace that fosters creativity and supports exploration at all points was of the utmost importance to the agency. The "idea" became its own constituent in the

project—something to be considered spatially and solved for specifically. Great ideas, like beautiful flowers, require the safety of a germination process before sprouting and blooming.

With this in mind, Blitz implemented a metaphorical garden layout of diverse spaces connected via a meandering path. Inspired by the fields and meadows of Southern California, this path provides views across open "fields" (neighborhoods) and links up a series of protective seed pods (project areas and rooms) for safe and hidden idea generation. Biophilic garden walls define

the "crops" and showcase the "harvest." Apertures and strategic wayfinding allow the project to unfold rather than reveal itself all at once.

"Within minutes of meeting, we knew Blitz was the right partner for the project. They understood office space, our needs and were up for the challenge of working with a group of very vocal creatives," remarks Lalita Kohler, CEO of Saatchi & Saatchi. "A beautiful collaboration of hearts and minds resulted in the solution to the agency's needs—a series of 'buildings within a building,' designed to support Saatchi & Saatchi's diverse functions. Our



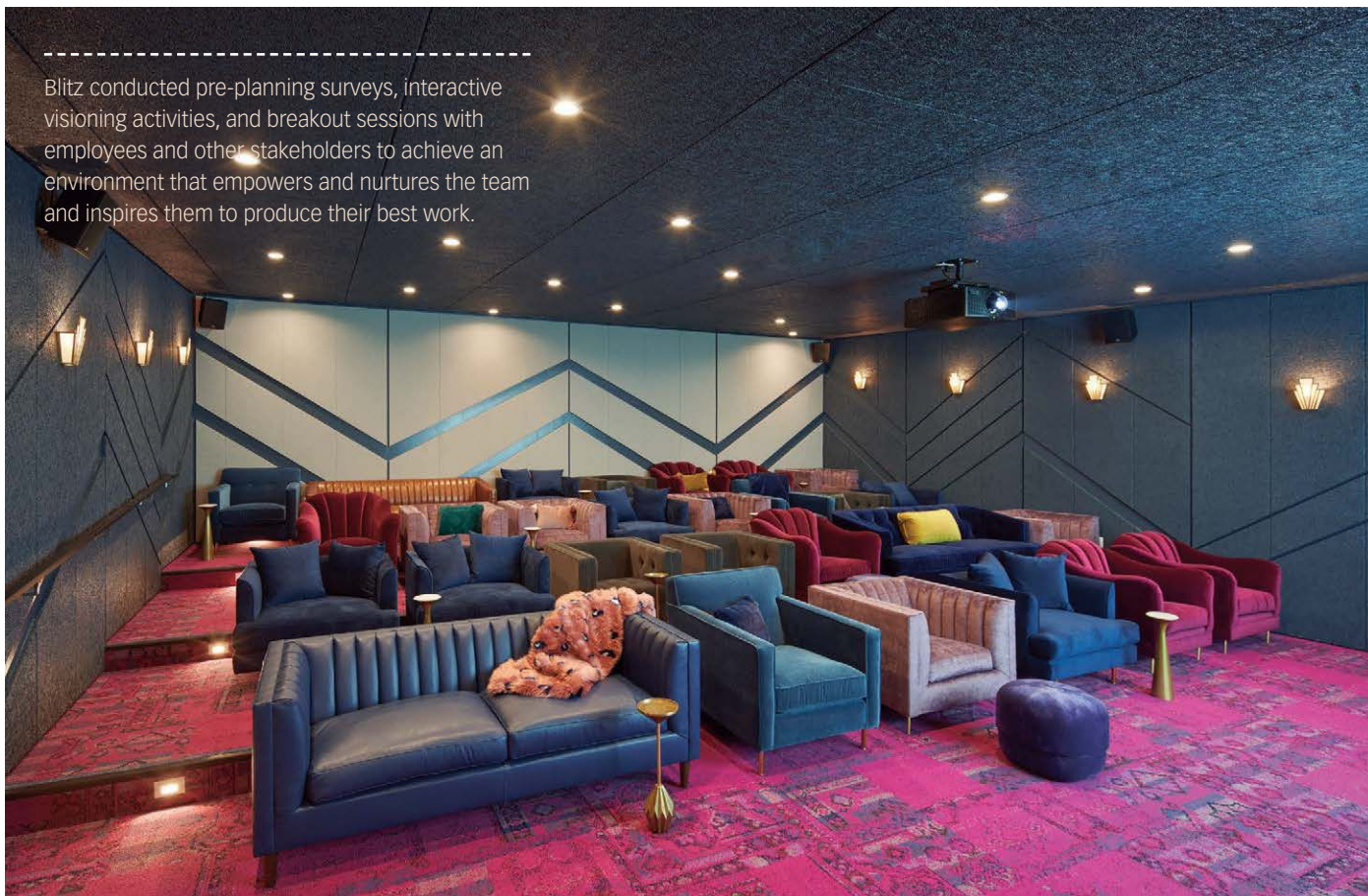
Developed in 1966 by Craig Ellwood, the designer who started the L.A. Modern aesthetic, the warehouse shell features steel trusses at an industrial scale. As a vast single-level space with meandering circulation, the creation of curated pods—buildings within the building—in a range of scales, locations and orientations establishes the path through the space.



Open offices, breakrooms, all-hands and similar functions are organized along the window lines to provide daylight to the largest group of users.



Blitz conducted pre-planning surveys, interactive visioning activities, and breakout sessions with employees and other stakeholders to achieve an environment that empowers and nurtures the team and inspires them to produce their best work.



completed project has a timeless quality, even in a post-pandemic world. We have the open space required to allow for more square footage per team member and the variety of specialty areas needed to support adapting work styles and schedules. Minimal changes need to be made with no sacrifice of the design intent and the lovely aesthetic.”

A LOVE LETTER TO L.A.

The warehouse shell provided its own inspiration. Developed in 1966 by Craig Ellwood, the designer who started the L.A. Modern aesthetic, the building features steel trusses at an industrial scale. As a vast single-level space with meandering circulation, Blitz knew the design had to be grounded with bold architecture that would act as orienting reference points throughout the journey.

The architectural language was devised as a “love letter to L.A.” With a mix of clean boxes and a dose of Mid-century Modern, the architecture is simultaneously current and timeless. The creation of curated

Pods—the buildings within the building—in a range of scales, locations and orientations establishes the path through the space.


Open offices, breakrooms, all-hands and similar functions are organized along the window lines to provide daylight to the largest group of users. These spaces provide the settings for this community of creatives to meet, discuss, collaborate, and develop the ideas that drive Saatchi & Saatchi and its clients’ businesses.

Personal touches, such as a library featuring portraits of Saatchi & Saatchi’s furry family members, add warmth and connectivity. Bespoke signage throughout the office helps with not only space identification and wayfinding, but also offer some comic relief. For example, the Help Desk is simply branded by a neon sign: “Oh Sh*t”.

STANDING THE TEST OF TIME

The team wanted to ensure that the sense of safety extended beyond idea creation and into the workforce. With a beautifully

diverse population, it was important that the project reflected Saatchi & Saatchi’s strong culture and values of inclusivity. Saatchi & Saatchi tasked Blitz with transforming the warehouse space pre-COVID, and the office was completed just weeks before shelter-in-place. While the project was completed in a pre-COVID world, it has stood the test of time and has been a welcoming and nurturing environment as employees have returned to the office, thanks to Blitz’s forward-thinking human-centered approach and focus on flexibility.

Saatchi & Saatchi’s prior office served the firm for more than 30 years and Blitz hopes this project will have a similar lifespan. Built to withstand the test of time and promote a healthy work environment, the new L.A. office is an inspirational space that fosters the creativity and collaboration needed to produce world-class work. The space has the flexibility to embrace the future needs of a modern workforce and remain supportive of its individuality, productivity and, most importantly, wellness. 

MATERIALS

MILLWORK // Taber, www.taberco.net; Formica, www.formica.com; and Wilsonart, www.wilsonart.com

SOLID SURFACE // Compac, us.compac.es; Infinity, www.infinitysurfaces.it; Concrete Collaborative, www.concrete-collaborative.com; and Caesarstone, www.caesarstoneus.com

ALUMINUM FRAMES // Wilson Partitions, www.wilsonpart.com

WOOD DOORS // VT Industries, www.vtindustries.com

FOLDING STOREFRONT // Arcadia, arcadiainc.com

DOOR HARDWARE // Schlage, www.schlage.com

METAL FRAMING // FrameTek, frametek.com

GYPSUM BOARD // National Gypsum, www.nationalgypsum.com, and USG, www.usg.com

ACOUSTIC CEILING // CertainTeed, www.certainteed.com/ceilings-and-walls

ACOUSTIC WOOD CEILING // Navy Island, navyisland.com

ACOUSTIC WALL // Tectum, www.tectum.com

ACOUSTIC INSULATION // K-13 Insulation from International Cellulose Corp., www.spray-on.com

ACOUSTICAL PANELS // Unika Vaev, unikavaev.com

ACOUSTIC ROOM // Echo Eliminator, echoeliminator.com

TILE // Daltile, www.daltile.com; Fireclay Tile, www.fireclaytile.com; and Heath Ceramics, www.heathceramics.com

LVT // Tarkett, commercial.tarkett.com

CARPET TILE // Bentley Mills, www.bentleymills.com; Interface, www.interface.com; and Tandus Centiva, commercial.tarkett.com/en_US/brand/tandus-centiva

WALLCOVERING // Designtex, www.designtex.com; Wolf Gordon, www.wolfgordon.com; Maharam, www.maharam.com; Flavor Paper, www.flavorpaper.com; and Buxkin, www.buxkin.com

PAINT // Dunn Edwards, www.dunnedwards.com

BLEACHERS // Hussey Seating, www.husseyseating.com

ROLLER SHADES // Mecho, www.mechoshade.com

DRAPERY // Carnegie, carnegiefabrics.com, and Maharam, www.maharam.com

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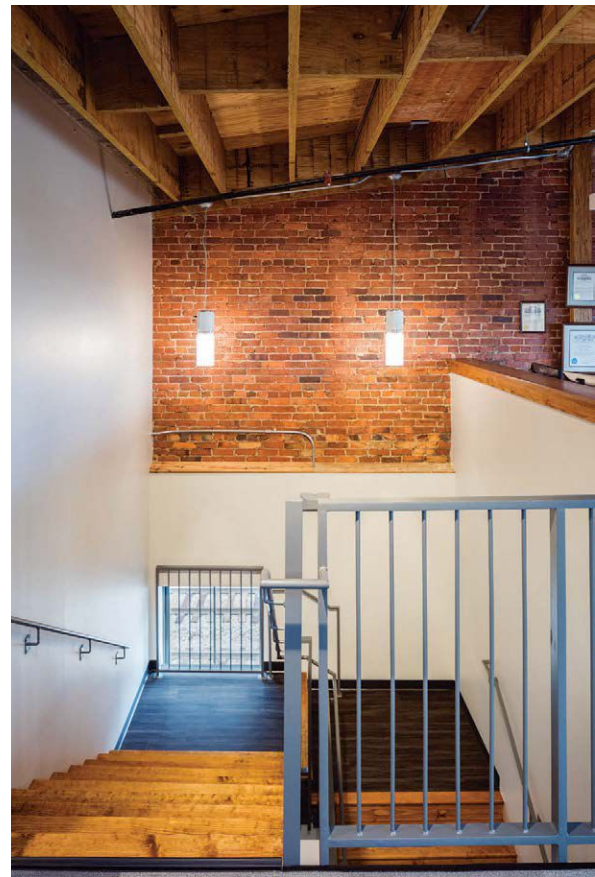
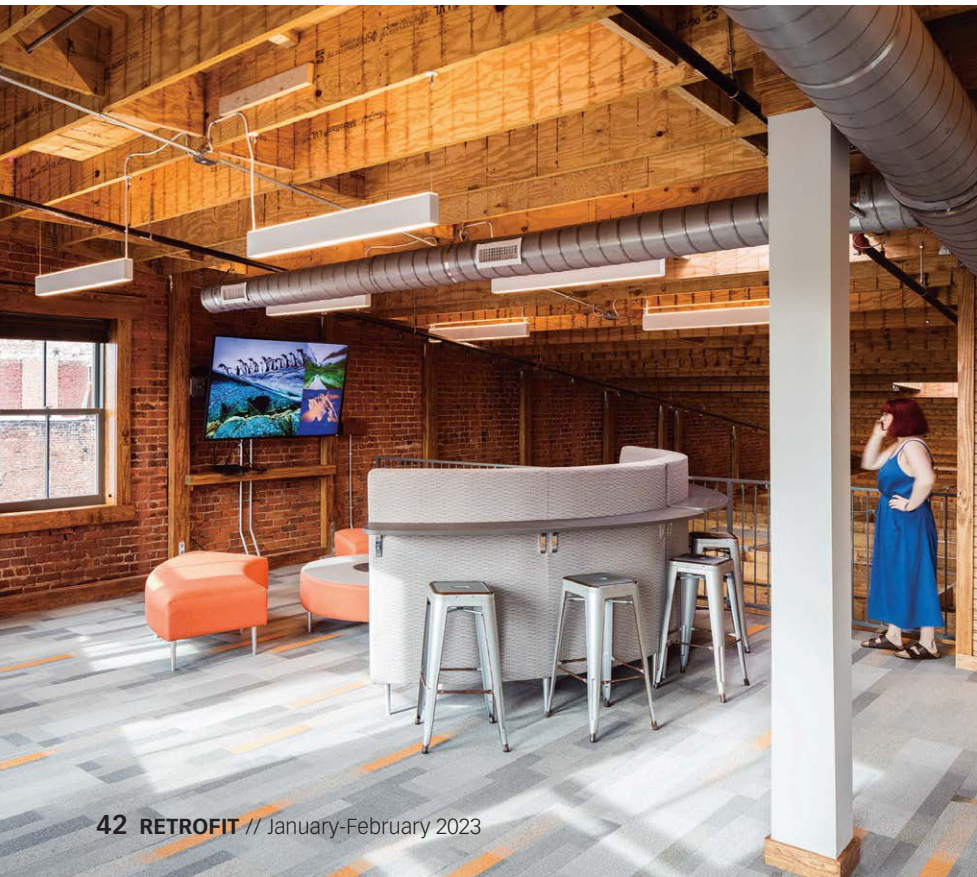
OFFICES & MANUFACTURING

CHRISTMAN- CASCADE BUILDING

Greensboro, N.C.



PHOTOS: KEITH ISAACS unless otherwise noted





» RETROFIT TEAM

ARCHITECT OF RECORD: Tise-Kiester Architects P.A., tisekiester.com

STRUCTURAL ENGINEER: Bennett Preservation Engineering PC, bennettpe.com

MECHANICAL ENGINEERS: Kuseybi Engineering PLLC, (336) 339-3660, and Consultant Engineering Service Inc., www.ceseng.net

ELECTRICAL ENGINEER: Dan Campbell Engineering P.A., (336) 370-4980

CIVIL ENGINEER: Borum, Wade and Associates P.A., www.borum-wade.com

CONSTRUCTION MANAGER: The Christman Company, www.christmanco.com

» MATERIALS

With a desire to completely change the function of a historic building to a modern construction office space while maintaining the inherent charm and character of the building, The Christman Company enlisted the help of multiple trades for the retrofit of Cascade Saloon.

First, the entire brick structure had to be reinforced for restoration; then extensive updates began. A historic painting replication company updated the exterior to match images from the late 1800s. A historic window replication vendor managed the new windows and doors. The project included particular attention to authenticity to honor the history while providing modern materials to help the site flourish for another 130 years.

New carpet and resilient flooring, electrical, HVAC, trim, hardware, metal framing, drywall, concrete, paving, elevators, fire protection, waterproofing, deep foundations, plumbing, roofing and more were installed to bring the project to life.

The following is a sampling of materials used in the project:

WINDOWS: Marvin, www.marvin.com

FLOORING: Shaw Floors, shawfloors.com

INTERIOR LIGHTING: Luminis, www.luminis.com, and Finelite, www.finelite.com

FURNITURE: Sam Rouse Furniture, samrousefurniture.com

» THE RETROFIT

A building once labeled “unsalvageable” and considered for demolition despite its historic status now is a modern and functional office space with a nod to its start as a local watering hole.

Constructed in 1895, the Cascade Saloon was home to a string of bars, businesses and storefronts—including a Black-owned café during the Jim Crow era—until a newspaper there ceased printing in 1980. The building was added to the National Register of Historic Places in 1982 but sat vacant, falling into disrepair. In 2017, construction management and real-estate development firm The Christman Company chose the Cascade Saloon building to become home to its regional offices.

With the help of the city of Greensboro, state and federal grants, and other local and regional partners, Christman renovated the 3-story building. The activity spurred and furthered new development in the south end of downtown Greensboro, helping it catch the redevelopment that started in the early 2000s on the north end of downtown.

The development team likened the project to building a ship in a bottle; carefully choreographed movement in tight quarters was necessary. Some of the challenges included operating between two busy railroad tracks adjacent to the site, stabilization of the historic masonry structure, working with extremely limited space for construction materials and deliveries, and replication of the historic exterior cornice.

Inside the building, Christman leaned on established design guidelines for its regional offices that promote consideration of the company’s identity while providing a collaborative and safe work environment that is adaptable and comfortable. From air quality, ergonomics, lighting and noise management to sustainable design, historic preservation, technology and branding, no detail was overlooked in providing a lovely, refurbished space that pays homage to the building’s varied and storied history.

BROADWAY TOWER ATRIUM | St. Louis



PHOTOS: SAM FENTRESS unless otherwise noted

» RETROFIT TEAM

ARCHITECT: Trivers, trivers.com
 LIGHTING DESIGNER: Reed Burkett Lighting Design, rbldi.com
 CODE CONSULTANT: Code Consultants Inc., codeconsultants.com
 STRUCTURAL ENGINEER: KPFF, www.kpff.com
 LANDSCAPE ARCHITECT: Arbolope Studio, www.arbolope.com
 CIVIL ENGINEER: Civil Design Inc., www.civildesigninc.com
 GENERAL CONTRACTOR: Paric, www.paric.com

» MATERIALS

Renovations to the 2-story atrium structure were transformative to the interior and exterior expression. Removal of heavy sloped-glazing “greenhouse-like” projections from the building was a necessary first step to bringing more light into the building.

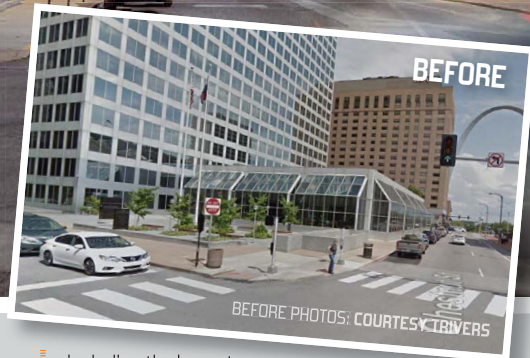
Re-cladding the structure with a terra-cotta rainscreen and new storefront glazing updated the façade to make it more inviting and contemporary, as well much more compatible with the surrounding site and landmarks. New glass canopy structures at east and west entrances were incorporated with a frosted glass curtainwall adjacent to the entries, opening the existing egress stairs to the inside and outside. The canopies also provide a dynamic illumination opportunity with RGB grazed lighting within.

Inside, visitors are immediately welcomed by a bright and inviting new terrazzo-clad monumental staircase with a fun pop of orange below featuring one of many shared tenant conference rooms. The monumental stair connects to a continuous walking track around the main conference-room level, landing at a shared hospitality area with access to a new covered exterior patio. Bringing the outside in, biophilic elements, like live trees and other plantings,

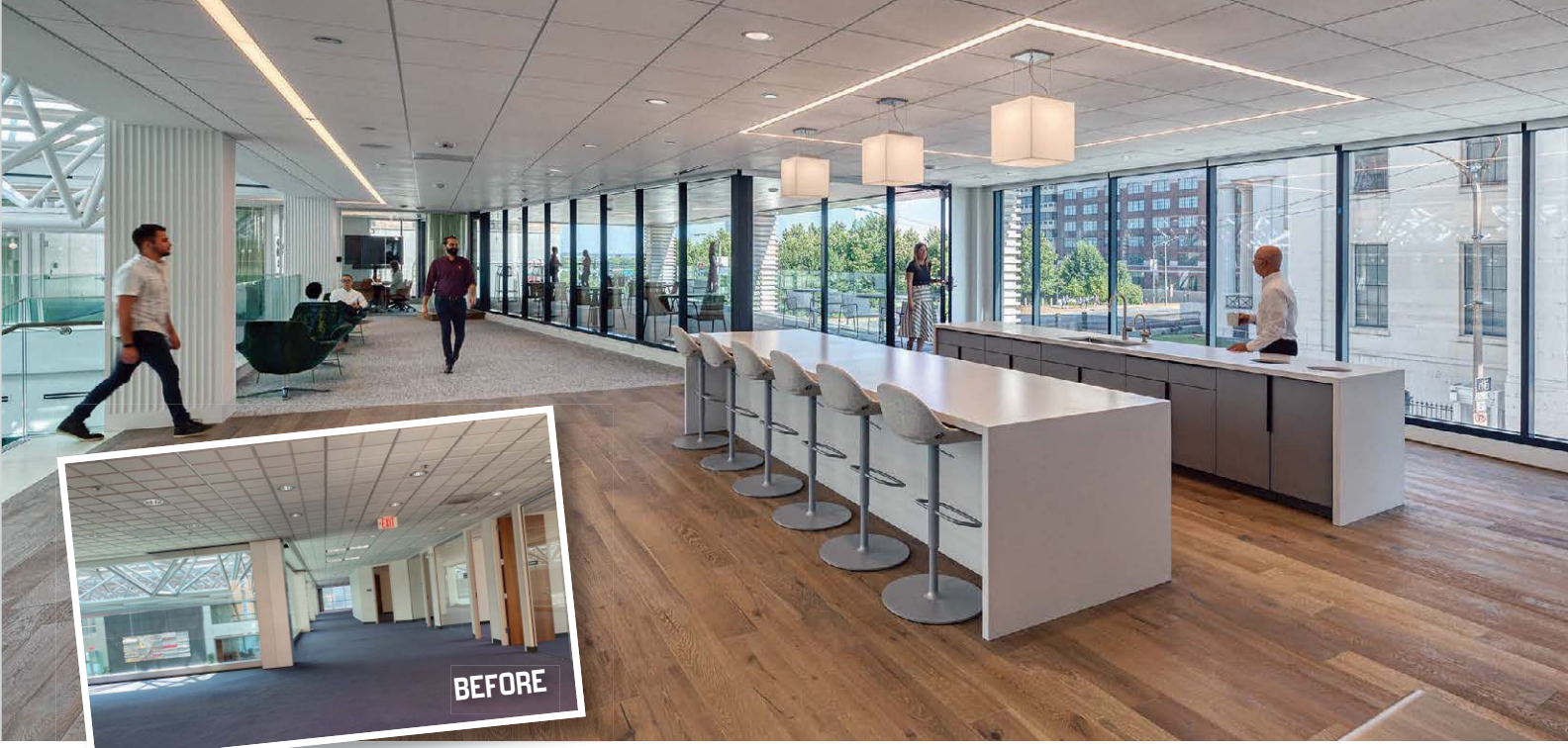
including the largest preserved moss wall in the region, were incorporated throughout. Interior column finishes reference St. Louis’ Old Courthouse, and natural materials, like wood and stone, complement the indoor/outdoor feel with a nature-inspired color palette for the textiles. Lighting is used to feature the existing space-frame and make for a dynamic expression of the building’s energy from the inside out.

The following is a sampling of materials used in the project:

TERRA COTTA: NBK Terracotta, nbkterracotta.com
 EXTERIOR WOOD CEILINGS/PANELS: Parklex Prodema, parklexprodema.com
 DECORATIVE METAL: Parasoleil, www.parasoleil.com
 PAVERS: MBRICO, www.mbricotiledecks.com
 STOREFRONT AND CURTAINWALL SYSTEM: Tubelite, tubeliteinc.com



BEFORE PHOTOS: COURTESY TRIVERS



ENTRANCE CANOPIES: Kingspan Light + Air, www.kingspan.com/us/en/business-groups/kingspan-light-air
 MONUMENTAL STAIR: Wausau Tile, wausautile.com, and Missouri Terrazzo, www.missouriterrazzo.com
 PRESERVED MOSS WALL AND PLANTINGS: Ambius, www.ambius.com
 WOOD FLOORING AT STAIR PLATFORM: Teka Hardwood Flooring, tekahardwoodflooring.com
 WINDOW SHADES: Mecho, www.mechoshade.com
 INTERIOR COLUMN WRAPS: Interlam, www.interlam-design.com
 ORANGE GLASS: McGrory Glass, mcgrory.com
 DEMOUNTABLE PARTITION SYSTEM (Second-floor Conference Rooms): V.I.A. from Steelcase, www.steelcase.com
 DIGITAL SCREEN GHOSTING FILM (Second-floor Conference Rooms): Casper Cloaking

Technology from Steelcase, www.steelcase.com
 CARPET, INTERIOR WALKING TRACK: Shaw Floors, shawfloors.com
 CARPET, CONFERENCE ROOMS: Milliken, www.milliken.com
 WOOD FLOORS: Boardwalk Hardwood Floors, www.boardwalkhardwood.com
 WOOD SLAT CEILING (Security Desk): CertainTeed, www.certainteed.com/ceilings-and-walls
 ACOUSTICAL CEILING TILES: USG, www.usg.com

» THE RETROFIT

What was once a dark bank lobby with waiting areas and a wall of teller windows is now a light-filled gathering space for the modern workforce.

"This project represents Trivers' continuing commitment to creating architecture that makes a meaningful difference in downtown St. Louis,"

says Trivers Principal Joe Brinkmann, AIA, LEED AP. "Located adjacent to two national treasures—the Old Courthouse and the Gateway Arch—the grand atrium now offers a stunning window to St. Louis' past and a look to its exciting future."

Larson Capital Management engaged Trivers to make interior and exterior improvements to the atrium and surrounding plaza with the goal of repositioning it as a premier office building destination.

"This space was underutilized for nearly a decade," Brinkmann adds. "With an atrium designed to support the modern workforce, Broadway Tower already is beginning to attract new tenants looking for quality space for their team members."

The Trivers office has been located in the Broadway Tower for almost 40 years. To commemorate the much-anticipated reopening of the atrium, Trivers hosted a celebration where attendees could tour the space and enjoy food and refreshments.



PHOTOS: TECHNICAL GLASS PRODUCTS

419 OCCIDENTAL AVENUE | Seattle

► RETROFIT TEAM

ARCHITECT: SHED Architecture & Design, www.shedbuilt.com
GENERAL CONTRACTOR: CHINN Construction, chinconstruction.com
GLAZIER: Goldfinch Brothers, www.goldfinchbros.com

► MATERIALS

Located in the Pioneer Square district, the building needed to be redeveloped to fit the historic neighborhood's shifting commercial landscape. Although the building's early 20th-century architecture visually matched the surrounding designs, it would fail some necessary fire- and life-safety code requirements. One of these was a fire-rated stairwell that met egress requirements.

SHED Architecture & Design decided to bring the stairwell to the building's exterior. This not only alludes to industrial fire escapes of the past but also sets the building apart visually from its neighbors. The design team chose to flood it with natural light by specifying two transparent glass curtainwall systems on the east and west ends, balancing design aesthetics with critical fire and life safety.

First, the south end of the stairwell had to incorporate fire-rated doors and windows to meet emergency-egress code requirements. Likewise, because the north end of the stairwell was load-bearing and less than 10 feet from a neighboring building, it needed a 120-minute fire rating. These

requirements necessitated finding rated and non-rated assemblies that could create a cohesive design. Because the design also included windows with the cross-laminated timber (CLT) north wall, SHED Architecture & Design requested a code modification to specify rated windows within it while still meeting Seattle's code requirements. To help solve these challenges, the design team turned to Technical Glass Products (TGP).

Because TGP's fire-rated frames offer narrow sightlines with a fire rating, the manufacturer was able to provide a close visual match to the non-rated frames in the stairwell. This helped maximize the amount of light the stairwell could provide and contributed to a cohesive visual aesthetic.

"These products are no joke," says Greg Shiffler, a senior architect and partner at SHED Architecture & Design. "The glazing is heavy and requires special crews, tools and knowledge." The rolled fire-rated steel frames can accommodate unrestricted glazing area, ensuring the glass takes center stage. As such, they helped this aspect of the building renovation proceed as planned.

To increase access control, the stairwell's ground-level entrance is located within the building. This design allowed the architectural team to include a fire-rated corner window system on the mezzanine level of the stairwell.

The window features floor-to-ceiling transparent glass held within black fire-rated frames to visually

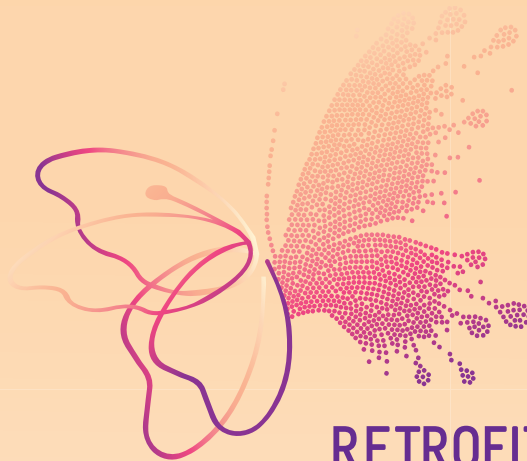
complement the building's storefront and stairwell's door and window systems. The mezzanine's reclaimed wood paneling borders the framing system to further tie the new materials to the building's history. The assembly provides a 120-minute fire-rating and adds to the natural light within 419 Occidental Ave.

In addition, TGP was able to offer guidance on requesting a code modification request with the city of Seattle. The stairwell's north wall incorporated 60-minute fire-rated windows within a 120-minute fire-rated, load-bearing wall made of CLT. However, Seattle's building codes did not cover installing fire-rated windows within a CLT wall, which meant the assembly would have been outside code requirements.

But there was a way to incorporate windows into the wall while meeting the intent of local building requirements. Because the CLT requires a one-hour "char depth" (as described in the 2015 National Design Specifications), it could provide leeway depending on the placement of the window in question. When set well beyond the char-depth limit, the 60-minute-rated windows satisfied the intent and requirements of the Seattle fire-safety codes. FIREFRAMES SG CURTAINWALL SERIES, FIREFRAMES CURTAINWALL SERIES WALLS, FIREFRAMES DESIGNER SERIES DOORS AND PILKINGTON PYROSTOP FIRE-RATED GLASS: Technical Glass Products, www.fireglass.com

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PHOTOS: NICK VANSSEN, VANSSEN MEDIA unless otherwise noted

MISSION VETERINARY PARTNERS

Southfield, Mich.

► RETROFIT TEAM

INTERIOR DESIGNER: Davis & Davis,

www.davisinteriordesign.com

GENERAL CONTRACTOR: Interior Space

Management of Michigan, www.ismofmi.com

FURNITURE VENDOR: Interior Environments,
ieoffices.com

LIGHTING DESIGN: Gasser Bush Associates,
www.gasserbush.com

ENGINEER: MA Engineering,
www.ma-engineering.com

MILLWORK: MOD Interiors, www.modinteriors.com

► MATERIALS

The design team selected vibrant finishes to create a fun animal-inclusive and energized interior. Cleanability and maintainability of finishes were of the highest importance. Large-format LVT flooring highlights circulation; treated (and cleanable) wood plank surfaces accentuate the faux-plant feature wall; vegan leather and high-performance upholstery cover the lobby seating area; and decorative metal panels enclose the space.

The following is a sampling of materials used in the project:

CARPET, TILE AND VINYL PLANK: Interface,
www.interface.com

WOOD-PLANK WALL: TerraMai, www.terramai.com

SEATING UPHOLSTERY: Momentum Textiles &
Wallcovering, www.momentumtextilesandwalls.com; Maharam, www.maharam.com; and Arc-Com,
www.arc-com.com

CUSTOM METAL PANEL WALL: Arktura,
www.arktura.com

WALLCOVERINGS AND GRAPHICS: MDC Design
Studio, mdc.studio

FAUX-PLANT WALL: ArtScape Interior Plant
Specialist, www.artscapeplants.com

DOG-BONE ISLAND: Corian, www.na.corian.com

CAFÉ PENDANT LIGHTING, ISLAND: Alva Pendant
with Locus Accessory from Tech Lighting,
www.techlighting.com

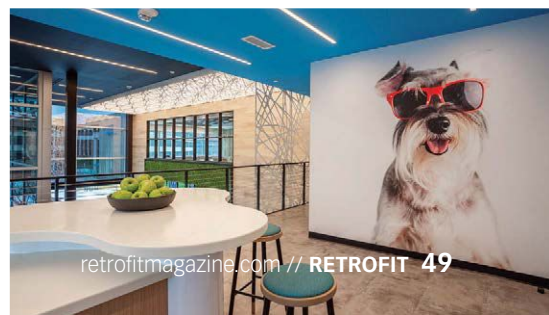
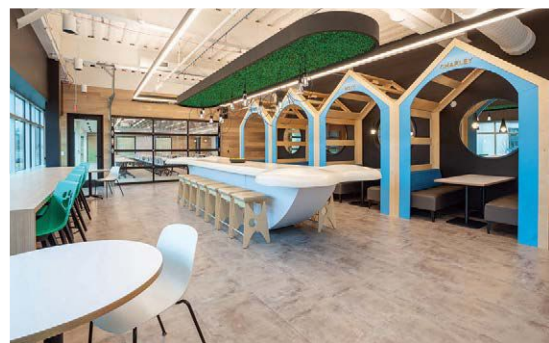
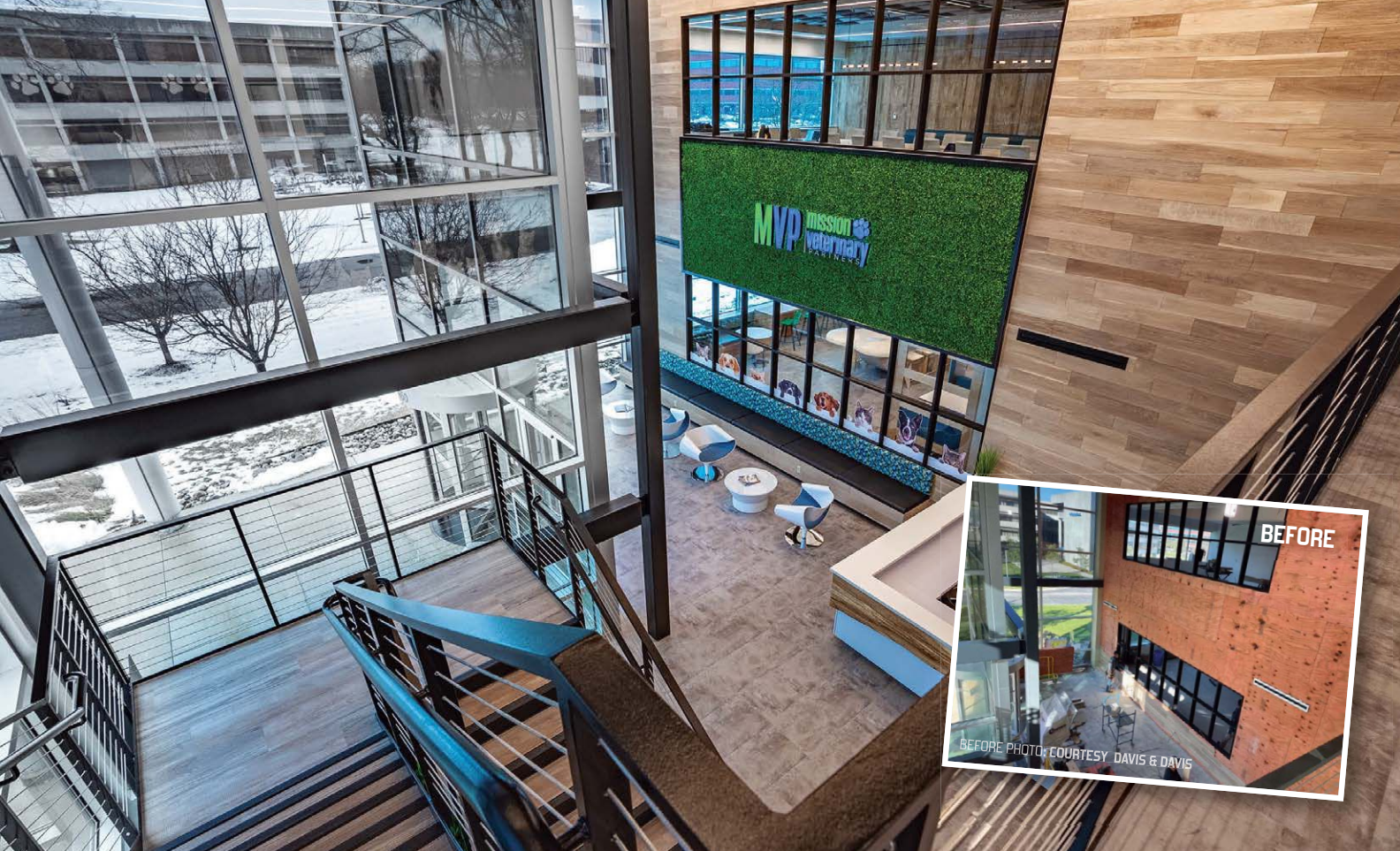
► THE RETROFIT

The former American Cancer Society building has been transformed into a new headquarters for Mission Veterinary Partners (MVP), including a new animal hospital training center. MVP's mission revolves around the health and wellbeing of its team members, becoming the employer of choice

in veterinary medicine, and supporting employees in providing the best care possible for clients and patients.

The design team conceived a 3D representation of this ethos in which a physical workspace helps employees feel engaged and empowered. The first-floor showplace provides veterinarians a place to gather and learn about MVP's practices, as well as take part in onsite training and continuing-education sessions. MVP's clients convene for a full-day conference within the training room, which overlooks the onsite surgery clinic. They break out into the café area for collaboration and will eventually utilize an exterior patio that is currently under construction. The boardroom overlooks the lobby and its exterior glass, letting in sunlight. Team member offices, workstations, printers, conference rooms and focus rooms are strategically located throughout the 2-story building.

Branding is evident in the lively and whimsical graphic murals depicting animals, a dog-bone-shaped island and the doghouse booths with employees' pets' names on them. Make sure you don't get into trouble with your colleagues or you may end up in the #doghouse!



ASTROBOTIC | Pittsburgh



» RETROFIT TEAM

ARCHITECT: AE7, ae7.com

» MATERIALS

A 47,000-square-foot facility that once served as a touchscreen manufacturing facility, bakery, post office distribution center and vehicle repair center now is home to Astrobotic, a lunar logistics company that builds and operates its lines of landers, rovers, autonomous spacecraft navigation systems, and other space technologies, as well as controls payloads from its Mission Control Center.

With a growing team of 150 employees, Astrobotic needed a new facility for spacecraft integration cleanrooms, test facilities, lab space, payload operations and dedicated mission control. The facility is the largest private building dedicated to lunar logistics.

As a retrofit project, the new Astrobotic facility

presented challenges in meeting new code requirements for the existing structure while creating a fresh and contemporary facade.

"We started with the front façade, which serves as the first impression to Astrobotic's new headquarters and understood the need to have a simple approach while adding subtle dimensionality to the building," says James Lennon, project manager with AE7. "CENTRIA Formawall panels helped us achieve that design goal and meet code and performance requirements in the upgrade."

Crews installed 2,400 square feet of vertical Regal White Formawall Dimension Series panels to deliver continuous insulation, high R-values and a modern exterior cladding aesthetic. Formawall consolidates six wall components into one product and offers pressure-equalized end joints and integration with most glass wall, window and louver systems.

Additionally, the project team worked with

CENTRIA to design custom fins for the entry to create depth, shadow and randomization. Coordination with CENTRIA engineers allowed for the integration of angled plate aluminum in matching Regal White that concealed fasteners and worked with the standard panel system while adding a dynamic element to the front façade.

"Partnering with CENTRIA from the start allowed us to work through technical questions and design the custom fin pieces that the vision called for," Lennon explains. "The early coordination during design development provided a great relationship, allowing us to obtain a high-performing system with the aesthetic that we and the client desired."

The Astrobotic team moved into the building after phase one renovations were completed in Spring 2021.

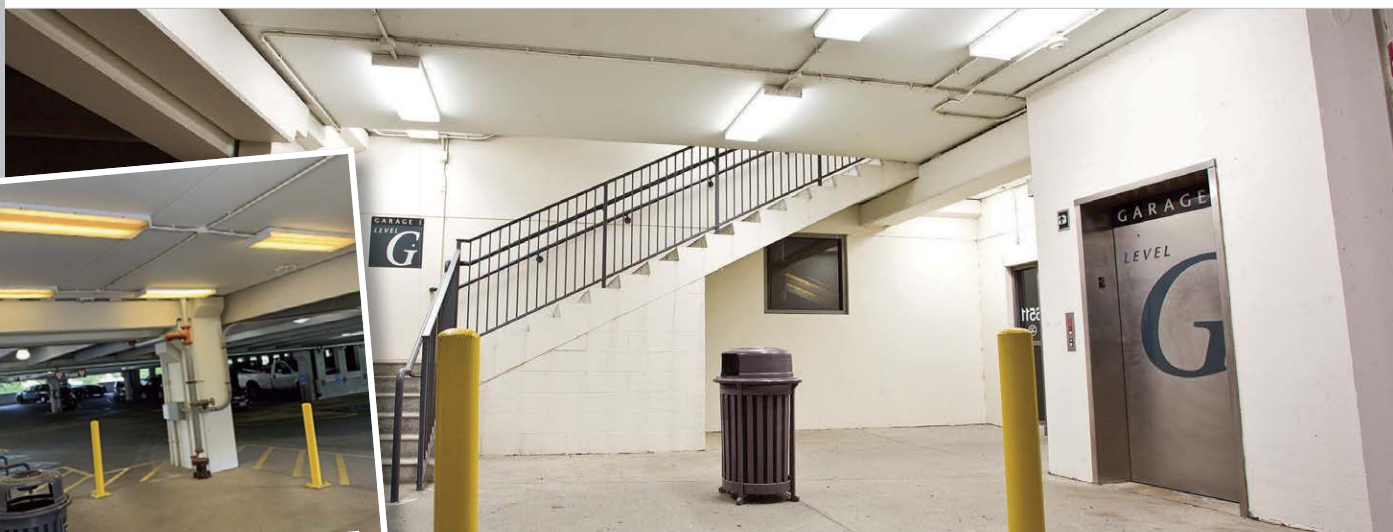
FORMAWALL DIMENSION SERIES PANELS:
CENTRIA, www.centria.com

ASPIRIA CAMPUS |

Overland Park, Kan.



PHOTOS: LEDVANCE



BEFORE

» RETROFIT TEAM

ELECTRICAL DISTRIBUTOR: City Lighting Products Co., www.citylighting.com

» MATERIALS

The 100-Watt high-pressure sodium fixtures that lit the garage stalls, as well as the metal halide lamps in the 130 coach light fixtures that lined the corporate campus' parkway, were replaced with 27-Watt SYLVANIA ULTRA LED High Lumen lamps. The 32-Watt, four-lamp, surface-mount fluorescent lamps in the garage stairwells were replaced with 10-Watt SYLVANIA SubstiTUBE IPS LED T8 LED lamps. In all cases, the upgrades involved a convenient one-for-one replacement within the facilities' existing fixtures.

THREE-THOUSAND, FIVE-HUNDRED SYLVANIA SUBSTITUBE IPS LED T8 LAMPS AND 6,800 SYLVANIA ULTRA LED HIGH LUMEN LAMPS: LEDVANCE, www.ledvanceus.com

» THE RETROFIT

Constructed as the world headquarters of a major telecommunications company in 1999, the campus contains 4 million square feet of Class A commercial office space spread across 20 buildings and 14 parking garages that can accommodate 14,500 vehicles. In July 2019, the property was purchased by Wichita, Kan.-based Occidental Management Inc. and has since been repositioned as a mixed-use complex.

Aspiria Campus Director of Engineering Gary Schlotzhauer championed the upgrade of the older fluorescent and high-pressure sodium lighting in the parking garages and parkway to high-performing, energy-efficient, long-lasting and easy-to-maintain LED technology.

"When we first took over, the lighting in our parking garages and along the campus parkway was dull, dingy and uninviting," Schlotzhauer says of the low-bay HID fixtures that lit the garages and parkway and the T8 fluorescent lamps in the 28 garage stairwells.

Kicked off in March 2020 and completed nine

months later, Schlotzhauer is delighted with the results of Aspiria's upgrade. In addition to elevating foot-candle levels and creating brighter, cleaner, more uniform and more inviting garage spaces, he notes: "We were paying \$4,800 a month for the labor to replace failed high-pressure sodium lamps throughout our 14 garages, so our upgrade to reliable, long-lasting SYLVANIA LED lamps delivered \$60,000 in annual labor savings alone. In addition, the new lighting delivered nearly \$210,000 in annual energy-cost savings. These combined savings enabled the project to pay itself back in less than a year."

Schlotzhauer has additional plans for the Aspiria campus. "As we complete tenant build-outs inside of our buildings, we're replacing everything with SYLVANIA linear LED lamps wherever we're not installing new lighting fixtures," he says. "We've installed over 10,500 SYLVANIA LED products on our campus to-date, even before this project, and are enjoying better quality light, performance, and energy and cost savings."

SMALL BATCH ORGANICS

Manchester Center, Vt.



PHOTOS: RYAN BENT, unless otherwise noted



► RETROFIT TEAM

CEILING INSTALLER: Small Batch Organics, smallbatchgranola.com

► MATERIALS

When this specialty granola-making company outgrew its first production facility, the firm's leaders took over one bay of a mattress factory that had been vacated by the mattress manufacturer. The bay's ceiling featured a forest of sprinklers, HVAC ducts, compressed air piping and other industrial leftovers from its previous use.

"It's easy to figure out how to build a wall, but I had never had to think about ceilings," explains Small Batch Organics' President Lindsay Martin. "I knew the Food and Drug Administration and local health department had food-safety requirements for ceilings and overhead surfaces. I saw all the sprinkler

heads and wondered how I was going to cover them with a ceiling."

She started doing research online and read about Ceilume and its thermoformed acoustic panels' drop-out capability. These panels can be installed to completely conceal the sprinklers. If a fire starts, heat softens the thermoformed panels, they deform and then drop out of the grid, exposing the sprinklers and allowing them to function and suppress the fire. This idea intrigued Martin because it offered the possibility of using the existing sprinkler system without the expense of modifying it.

"We showed the product to our local fire marshal, and we got permission to do the ceiling without modifying all the sprinklers," Martin says. The fire marshal wanted documentation that the proposed drop-out ceilings met National Fire Protection Association standards, and he approved the project

based on testing Ceilume has conducted and the product's approval by IAPMO-UES, an agency that evaluates product compliance with building codes.

Martin engaged a friend to install the standard T-Bar ceiling suspension grid; then, she, her husband and another friend installed the ceiling panels. The lightweight panels have occasionally had to be moved for access to above-ceiling mechanical systems but Martin notes moving the panels is easy.

"The ceiling is something I sort of obsessed over because I was really intimidated at the thought: How was I going to cover that warehouse ceiling?" she recalls. "It turned out to be one of the more seamless parts of the build-out of the space."

CEILING PANELS: 2- by 4-foot Southland Panels in White from Ceilume, www.ceilume.com/pro



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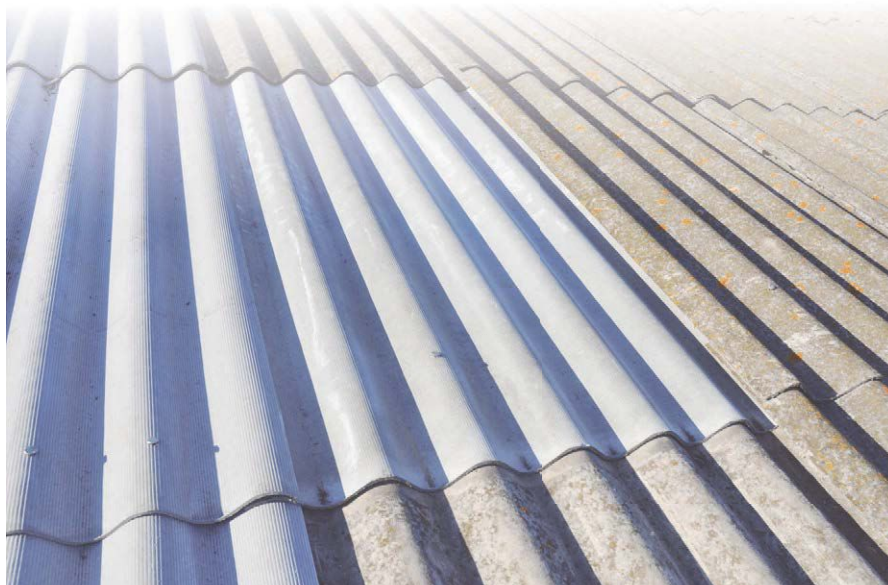
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TRANSITE ROOF RE-COVER

WRITTEN BY | ROBERT SITERLET





PHOTOS: ROBERT SITERLET

AN ASBESTOS-LADEN ROOFING PRODUCT ON A FOUNDRY IS COVERED, RATHER THAN ABATED

Although the majority of roof systems are destined for landfills, this doesn't have to be the case. By re-covering an existing roof system—no demolition required—a client retains the initial roof investment and intended functionality; the entire building structure is strengthened from the additional tensile strength of the system; and thousands of pounds of roofing material remain in use and out of landfills.

One such example of a successful—yet complicated—roof re-cover is Atlas Foundry Co. Established in 1893, the business produces gray iron castings for the agriculture, construction, transportation and manufacturing industries. Foundry facilities are built to withstand intense processing heat loads because of the high temperatures of furnaces and other equipment used in the material

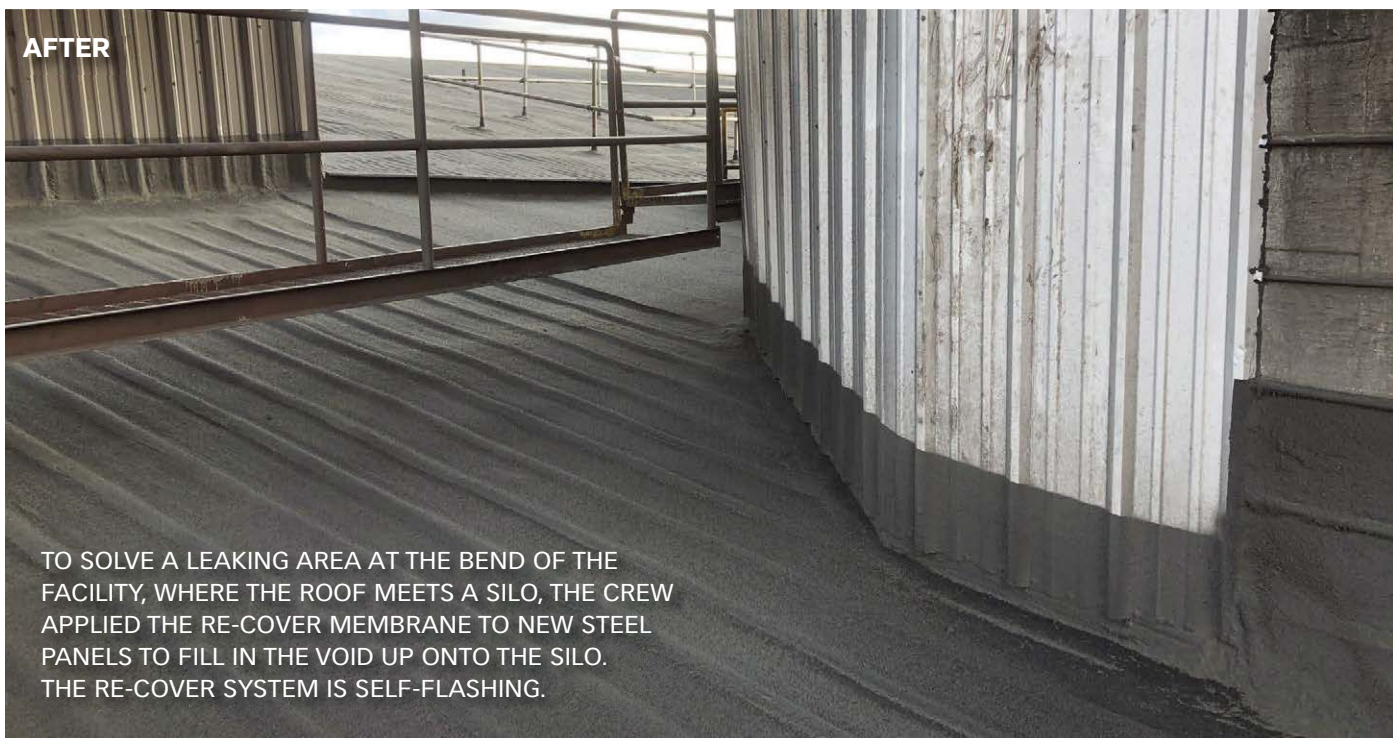
processing.

Atlas Foundry's 90,000-square-foot Marion, Ind., facility was built in 1958—a time when a new Chevy Bel Air cost \$1,987 and asbestos-laden products were all the rage. Asbestos had long been praised for its heat-resistant properties and durability. Naturally, it was widely accepted as a necessary additive to strengthen the performance and durability of construction products, especially roofing panels. After 63 years of use, the Marion facility's transite—an asbestos-laden, cement-board material—roof was cracking and allowing moisture into the building, which is a serious problem for a foundry.

The client needed a solution that would withstand the high temperatures generated by the foundry's equipment and processing, as well as ensure the foundry's production would remain on schedule. Working on a transite roof



BEFORE



AFTER

TO SOLVE A LEAKING AREA AT THE BEND OF THE FACILITY, WHERE THE ROOF MEETS A SILO, THE CREW APPLIED THE RE-COVER MEMBRANE TO NEW STEEL PANELS TO FILL IN THE VOID UP ONTO THE SILO. THE RE-COVER SYSTEM IS SELF-FLASHING.



BEFORE



AFTER



FIBERGLASS SKYLIGHT PANELS WERE NO LONGER LETTING LIGHT INTO THE FACILITY. NEW CUSTOM FIBERGLASS SKYLIGHTS ARE HIGH-STRENGTH WITH MATCHING CORRUGATION AND RIB PROFILES THAT FIT EVENLY WITH THE TRANSITE PROFILE. THE PANELS ARE PLACED WHERE THE ORIGINAL SKYLIGHTS ONCE WERE AND THEN SEALED IN WITH THE RE-COVER SYSTEM.

created additional challenges for the roofing team to consider.

TRANSITE HISTORY

Transite was officially banned from production in 1985 after the public became aware of the health-related effects from long-term exposure to asbestos. In fact, during the heyday of manufacturing construction materials with asbestos, manufacturer spec sheets list many construction products as containing no less than 45 percent asbestos by weight. That's not a typo!

Fireproofing aside, the longevity of a transite roof was an estimated 50 to 70 years. That aspect alone positioned transite products as a must-have roof system for a multitude of manufacturing facilities built in the U.S. between 1930 and 1980. To this day, hundreds (if not thousands) of original transite roofs are still protecting chemical plants, paper mills, textile factories and foundries.

Asbestos removal is extremely expensive and dangerous and, therefore, regulated by the EPA and OSHA. In addition, transite panels are heavy, weighing anywhere from 50 to 60 pounds for a typical 12-foot-long roof panel. It also costs a small fortune to transport the material to a specially designated landfill for hazardous waste. Many building owners choose to abandon buildings with transite roofs rather than consider other options.

CHALLENGES ABOUND

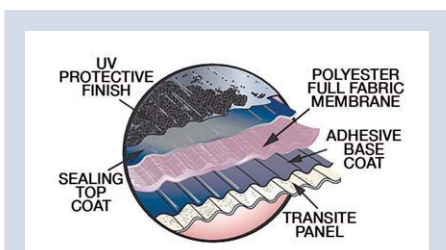
There were many challenges with Atlas Foundry's re-cover project. For one, the Marion facility's structural integrity was a concern. Withstanding weather for more than 60 years contributes to the traditional wear and tear of a building structure (think: annual thermal expansion and contraction).

The moisture leaking into the facility not only can introduce contaminants into production, which compromises product integrity, a simple drop of water in the wrong place can cause a catastrophic explosion.

The chemical processing that takes place at Atlas Foundry produces significant amounts of sulfur and other noxious vapors. The years of chemical offgassing had all but decommissioned the fiberglass skylight panels, leaving a safety hazard. The skylights had served as a light source in the event of a power outage. They're mathematically engi-

neered to cast light in a series of lines, leading the way to exits. The old skylight panels would have to be removed and replaced.

Because the facility is located in a residential neighborhood, the client decided a roof restoration would be safest. Tearing off a transite roof could release millions of tiny asbestos fibers into the air.



This roof re-cover system doesn't disturb any in-place asbestos-containing roofing material and there are no additional fasteners, so the transite remains non-friable.

THE RE-COVER

The restoration process seals the hazardous transite material tightly while adding 80,000 to 100,000 pounds of tensile strength to the roof.

The system begins with a primary layer of specially formulated asphalt that is sprayed directly onto the transite panels, followed by the application of a polyester membrane along the sprayed path. After the membrane is in place, crew members "broom down" the membrane so it adheres directly to the transite.

Once the section has been broomed down, the sprayer returns to apply another topcoat of specially formulated asphalt to seal-in the membrane. Seams of the membrane are effectively sealed underneath the second layer of asphalt, making it seam-free.

The asphalt in this first phase is then left to cure for four to six weeks and solidify. Once cured, the crew returns to apply a fresh layer of the asphalt followed immediately with an application of recycled, carbon-based roofing granule. The granules are embedded into the asphalt. This top layer of asphalt cures with the granules in place. The multi-layer system becomes a seamless, monolithic wrap that can flex with the building while keeping the transite intact, thanks

TO THIS DAY,
HUNDREDS (IF NOT
THOUSANDS) OF
ORIGINAL TRANSITE
ROOFS ARE STILL
PROTECTING
CHEMICAL PLANTS,
PAPER MILLS,
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RETROFIT TEAM ROOFING CONTRACTOR //

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www.thermal-tec.com

MATERIALS

- Proprietary Asphalt Formulation
- Stitched-in Polyester Membrane
- Recycled Carbon-based Granules



AFTER: FASTENERS AND LAP JOINTS ARE NO LONGER SUSCEPTIBLE TO WATER ENTRY WITH THE NEW MEMBRANE OF THE RE-COVER SYSTEM LAMINATED TO THE TRANSITE PANELS.

to the added tensile strength.

Adding just 12-14 ounces per square foot to the structure, the foundry had no issues supporting the weight of the new roof system. Now, the top surface will be renewed every 10-15 years with a fresh layer of asphalt and additional granules.

This roof re-cover system is preferable for transite not only because it doesn't disturb any in-place asbestos-containing roofing material, but also because there are no additional fasteners. There is nothing the crew does to create friable asbestos-containing roofing material.

However, the team followed a safety plan and held crew meetings every day before getting up on the roof. The meetings reiterated safety plans, proper entrance and exiting points, as well as fall-safety requirements. In addition to proper fall-protection equipment, all crew members wore leather gloves to protect them from touching the transite. Because the transite was non-friable, masks were not required.

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photo: James John Jetel

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JOB WELL DONE

Commercial roofing is always a rewarding business.

However, re-covering a transite roof not only protects the people working at the facility, it protects the business itself by saving usable floor space without having to shut down operations. It allows the business to retain the most beneficial aspect of its original transite roof, which is the fire-resistant properties. (The re-cover solution also comes with a Class A fire rating.)

Our team is thankful to have the opportunity to act as environmental stewards by offering companies an alternative to discarding their old asbestos-laden roof systems into landfills.

And the gratitude expressed by the foundry workers who now have a safe and dry workspace to perform one of the most dangerous jobs in America is appreciated. 



AN ACCESS WALKWAY AND ITS POSTS AND PENETRATIONS WERE SEALED WITH THE RE-COVER SYSTEM.





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UBER ADVANCED TECHNOLOGIES GROUP | Pittsburgh

► RETROFIT TEAM

HVAC DISTRIBUTOR: Comfort Supply Inc.,

(412) 921-6600

MECHANICAL ENGINEER: WNA Engineering,

www.wnaengineering.com

HVAC CONTRACTOR: Lugaila Mechanical,

www.lmi-pa.com

ARCHITECT: Strada LLC, stradallc.com

► MATERIALS

The following HVAC equipment was used in the project:

- 13 PURY-HP H2i R2-Series Outdoor Units
- 87 PEFY-P Ceiling-concealed Ducted Indoor Units
- One CMB-P106NU-G, 6 Branch (Single BC)
- 12 CMB-P108NU-HA1, 8 Branch (Main BC)
- 87 PAC-YT53CRAU-J, Simple MA Remote Controllers
- Two AE-200A, AE-200 Centralized Controllers
- 85 Filter Boxes with MERV 13 Filters
- Four PremiSys Fusion DOAS
- One Diamond Controls Building Automation System

Mitsubishi Electric Trane HVAC US LLC,
metahvac.com

► THE RETROFIT

UBER Advanced Technologies Group retrofitted an existing 110,000-square-foot warehouse for its autonomous vehicle research and development labs. The building presented a unique design challenge: Vehicle testing garages sit next to state-of-the-art conference rooms and office space.

"We had several different parts going into this building: a garage, special research areas, office spaces, gathering areas, a café and so on," recalls Aaron Doubt, UBER ATG's facilities and special projects director. "We had to have a system that gave us precise control over each zone."

Knowing VRF had the zoning capabilities required, the team opted for that type of system from Mitsubishi Electric Trane HVAC US LLC. The building engineer and HVAC distributor Comfort Supply Inc. worked directly with Mitsubishi Electric's Controls Solutions team to layout and design a cohesive system.

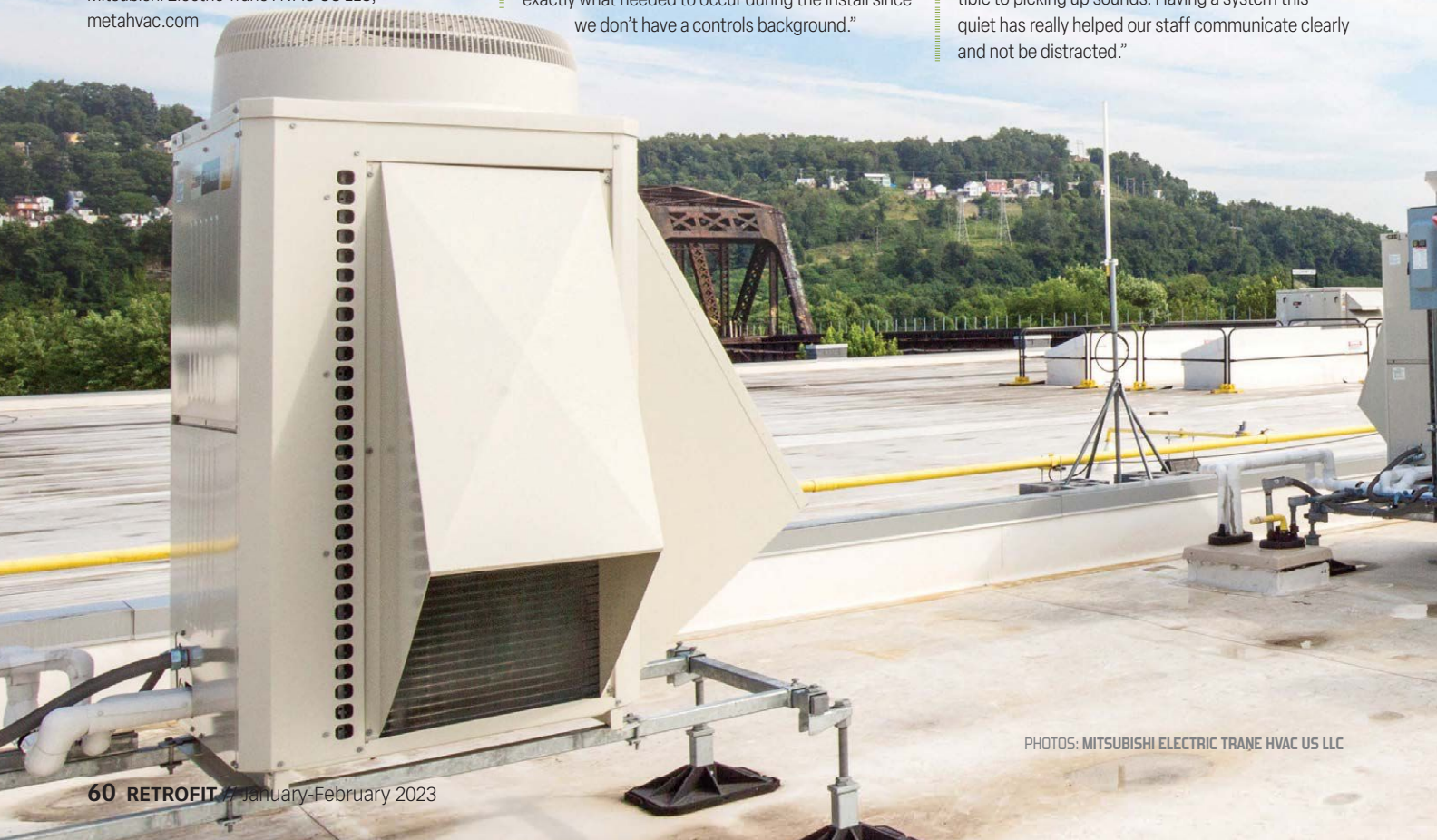
"Mitsubishi Electric was involved right from the construction phase, even coming onsite several times," notes Justin Kern, Comfort Supply's senior commercial sales engineer. "Controls Solutions helped us communicate to the HVAC contractor exactly what needed to occur during the install since we don't have a controls background."

In addition to the VRF system, the team specified four PremiSys Fusion DOAS units for ventilation, as well as third-party electric heaters and exhaust fans throughout the building. All control systems were integrated into Mitsubishi Electric's building management system, Diamond Controls. Within the testing garages, Diamond Controls is a major component of ventilation safety.

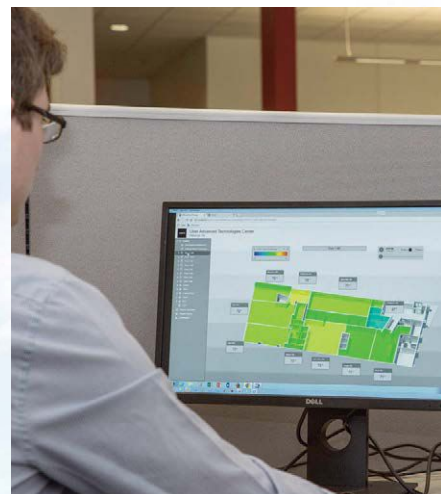
"In our R&D showroom, we pull in cars for research and testing," says TJ Wolkiewicz, facilities lead, UBER ATG. "Monitoring car exhaust and fumes is a priority. In addition to our DOAS systems, Mitsubishi Electric was able to integrate CO2 sensors into the controls interface. I can put the system on 'auto mode' and it will alert us, as well as our Pittsburgh Security Operations Center, if it senses any kind of gas in the air."

Beyond the research and design facilities, the campus also is a prime location for hosting meetings and events. Comfort is critical for staff and guests.

"Having the ability to control each room with its own setpoint or even a small section of rooms with VRF has been great," Doubt remarks. "In addition, much of our communication here is done through video conferencing. Microphones are very susceptible to picking up sounds. Having a system this quiet has really helped our staff communicate clearly and not be distracted."



PHOTOS: MITSUBISHI ELECTRIC TRANE HVAC US LLC



PANTHER VALLEY ELEMENTARY SCHOOL | Nesquehoning, Pa.

PHOTOS: ARMSTRONG CEILING & WALL SOLUTIONS



► MATERIALS

The following ceiling and ventilation materials were used in the project:

- Ultima Ceiling Panels
- Armstrong StrataClean IQ Air Filtration System
- Armstrong VidaShield UV24 air-purification system

Armstrong Ceiling & Wall Solutions,
www.armstrongceilings.com

► THE RETROFIT

To determine its indoor environmental quality (IEQ), Panther Valley Elementary School representatives recently placed AWAIR indoor environmental sensors throughout the school. The sensors measure seven key IEQ factors: temperature, humidity, CO₂, VOCs, particulate matter, noise and light. During initial monitoring, the overall AWAIR scores were between fair and good, averaging in the low 80s. Primary areas of concern were ventilation rates and light levels; secondary areas of concern included CO₂ thresholds, noise and thermal-comfort levels.

To help address these concerns, the school replaced the ceiling in a 780-square-foot third-grade classroom, which was built in the 1980s, houses 27-32 students and is in use nearly eight hours a day. The school also replaced the ceiling in a 450-square-foot nurse's office. Ultima high-light-reflectance ceiling panels from Armstrong Ceiling & Wall Solutions were installed in both spaces. The smooth-

textured panels with a non-directional visual are washable and impact- and scratch-resistant.

The new ceiling panels have improved lighting. Estimated light reflectance value of the existing ceiling was in the 40-60 range while the Ultima Ceiling Panels have a light reflectance of 88. By upgrading the ceiling and adding new LED light fixtures, light levels in the spaces more than doubled from 116 to 253 lux.

The acoustic environment also improved. The ceiling's noise reduction coefficient increased from .55 to .75, meaning the new panels absorb 75 percent of the sound that strikes them. The ceiling panels also block sound from entering adjacent spaces.

In addition, an in-ceiling Armstrong StrataClean IQ Air Filtration System was installed in the classroom. An internal fan draws air through one side of the grille. The air then moves through a MERV 13 filter and discharges back into the space through the opposite side. One unit can filter the air in a 1,000-square-foot space every hour, removing 90 percent of airborne contaminants, allergens and other particulates.

Like many schools in the northern part of the country, Panther Valley Elementary has no HVAC system. As a result, air changes per hour (ACH) in the classroom were only 0.5 ACH. Following installation of the StrataClean unit, ACH increased to 1.5. Increasing ACH helps reduce exposure to airborne

contaminants and particulate matter while decreasing CO₂ levels.

Third-grade Teacher Tori Koerbler has noticed the improvement. "I know how important indoor air quality is for myself and my students," she says. "I'm a severe asthmatic and I haven't had any episodes since the start of school and the room renovation."

An in-ceiling Armstrong VidaShield UV24 air-purification system was installed in the nurse's office. The unit continuously draws air into a self-contained chamber in the ceiling plenum where the air is treated with ultraviolet-light air-cleaning technology. The disinfected air then circulates back into the room, reducing occupant exposure to viruses and bacteria. Third-party testing shows this system neutralizes 97 percent of infectious pathogens on the first pass through the system. This contributes to healthier spaces by minimizing allergy and asthma triggers, as well as other infectious pathogens in the air.

Following completion of the improvements, AWAIR scores were in the mid 80s to low 90s with an average near 88.

"Coming out of COVID, it's important we continue to explore what's next for air quality in the building," asserts Principal Rob Palazzo. "The cafeteria could be the next space. As far as the future, we will continue to regard improved indoor environmental quality as a long-term investment."



PHOTOS: FUJITSU



900 LEE ST. E. | Charleston, W.Va

► RETROFIT TEAM

ARCHITECT AND MEP ENGINEER: Thrasher Group, thethrashergroup.com

OWNER AND GENERAL CONTRACTOR:

AB Contracting, abcontractingwv.com

HVAC INSTALLER: Darnold Mechanical Inc., darnoldmechanical.com

HVAC DISTRIBUTOR: Ferguson Enterprises, www.ferguson.com

► MATERIALS

The following HVAC equipment was used in the building:

- Airstage VRF System
- CaptiveAire DOAS

Fujitsu, www.fujitsu-general.com

THE RETROFIT

900 Lee St. E. is one of the tallest buildings in the capital city. AB Contracting Inc., a 100-person construction and property management company, acquired the 17-story building in April 2021 and immediately began creating a modern, mixed use-space in the circa-1960 high-rise. AB Contracting's Founder Allen Bell's vision included new office space on the lower floors with apartments occupying all levels above.

Architects and engineers at Thrasher Group redesigned the structure to serve its new purpose,

as well as created plans for all MEP components.

"The challenge on this project was converting old commercial space into modern, high-end apartments while converting the HVAC systems from a centralized system to something that could accommodate half-a-dozen zones per floor," explains Thrasher Group's Ken Smith, P.E., whose main focus was design of the new HVAC system. "Ultimately, a VRF system was specified for this reason, but other possibilities had been considered."

"We decided on a VRF system because of its energy efficiency and the simplicity of creating many zones per floor across the 14 residential stories," explains AB Contracting's COO Brian Wadsworth. "Fujitsu's Airstage line was selected because of their competitive package and the fantastic support we'd already received [from our Ferguson representatives]."

The tall, narrow building's glass façade results in shifting solar loads and significant heat loss during the winter. As a result, most of the VRF equipment specified was heat-recovery units, providing the ability to reclaim energy where heat is being rejected and sharing it with zones calling for heat.


"We're applying for state and federal historic tax credits for the work on this property," Wadsworth notes. "This prohibits us from tinting the windows to reduce solar gain. As a result, the heat-recovery component is critical."

Thrasher Group's design included 278 tons of heat-recovery capacity with an additional 80 tons of heat-pump capacity. The latter was used almost exclusively throughout common areas in the lower commercial floors.

The building's floorplan is served by a variety of terminal unit types. Slim-duct air handlers were installed in corridors and smaller apartments while a combination of medium- and high-static units were installed in larger apartments. High-static ducted air handlers were used in the atrium, offices and basement.

"Physical constraints were big drivers of design," Smith says. "Vertical separation was the primary constraint, and we cleared this hurdle by splitting the 42 condensers between two farms; one on the main roof and one on the fourth-story mezzanine roof between the parking deck and main building."

After the installation began, AB Contracting made an additional request for an IAQ package. A CaptiveAire 100 percent DOAS makeup-air unit was installed for the commercial floors. Separate ductwork ties to the returns on each VRF head.

With assistance from Ferguson's VRF division, Darnold Mechanical installed and commissioned the systems between December 2021 and August 2022. Data captured during commissioning was sent to Fujitsu for review. Fujitsu's System Controller also is being used to remotely monitor the VRF system. 

DESIGN FOR THE DIGITAL AGE

One Floor within Millions of Square Feet of Office Space Stands Out from the Rest

PHOTOS: STRATA VISUALS unless otherwise noted



WRITTEN BY | JEYLEN ARTEAGA AND BREANN NASH, RID

The Galleria in Houston may be best known as a luxury mall with an indoor ice rink, developed by the famed Gerald D. Hines. The Galleria mall opened in 1970 and is modeled after the Galleria Vittorio Emanuele II in Milan with a massive, glazed barrel vault running its length. But with millions of square feet of office space within a 1/2-mile radius of the mall, The Galleria area is a business district in its own right.

The Galleria Office Towers are a collective of three separate towers sited above the mall. Galleria Tower I, Galleria Tower II and the Galleria Financial Center (GFC) were added in the mid- to late-'70s. GFC is distinctly positioned at the intersection of the shops and the office space. It shares a common atrium with the mall and is topped by a large skylight, bringing natural lighting into the cavernous space. GFC's 12 floors are serviced by glass elevators, and offices around the

atrium also have glass walls to take advantage of the daylight.

The Hub at the Galleria is a full renovation of floor 12 East in the 1977 GFC. Building owner Unilev challenged its brokerage team to think outside the box for the renovation of floor 12 East. What would be fresh and bold yet not look out of place in a 1970s-era building? The result is a unique combination of a complete spec office and a co-working space. And in the

■ Retrofit Team

ARCHITECT // AMB Architects,
www.ambarchitects.com

- Alyse Makarewicz, architect
- Breann Nash, RID, project manager and interior designer
- Eric Trudelle, interior designer and rendering artist
- Jeylen Arteaga, digital graphics

GENERAL CONTRACTOR // Endurance Builders, www.endbs.com

SIGNAGE // Aria Signs, ariasigns.com

FURNITURE AND WALL SYSTEMS (Amenity) // Agile Interiors, www.agileinteriors.net

WALL SYSTEM INSTALLER // McCoy Rockford, www.mccoyrockford.com

LIGHTING CONSULTANT // Putterman Scharck & Associates, www.psalighting.com

MEP ENGINEER // E|B|E, www.ebeemce.com

■ Materials

ACCENT WALL FELT // FilzFelt, www.filzfelt.com

WALLCOVERING // Maharam, www.maharam.com

CARPET // Interface, www.interface.com

PAINT // Benjamin Moore, www.benjaminmoore.com, and Sherwin-Williams, www.sherwin-williams.com

ACOUSTICAL CEILING // Armstrong Ceiling & Wall Solutions, www.armstrongceilings.com

PHONE BOOTHS AND GLASS WALLS & DOORS (Amenity) // DIRT Environmental Solutions, www.dirtt.com

WALL SYSTEMS IN SPEC SPACES // Steelcase, www.steelcase.com

PLASTIC LAMINATE // Nevamar from Panolam, panolam.com/nevamar; Wilsonart, www.wilsonart.com; and Abet Laminati, abetlaminati.com

SIMULATED STONE // Cambria, www.cambriausa.com, and Caesarstone, www.caesarstoneus.com

CERAMIC WALL TILE // Emser, www.emser.com

BRICK VENEER // ACME Brick, brick.com

VIRTUAL REALITY // SteamVR, store.steampowered.com/steamvr, using the HTC Vive Pro, www.vive.com

crowded field of co-working spaces, the owner really wanted what would become known as “The Hub” to be distinctive.

Project Goals

Project goals were straightforward: maximize the usability of the lobby, incorporate modern amenities to catch the eyes of tech-forward tenants, provide additional flexibility within the suites for several types of client branding, and incorporate clear and distinctive wayfinding from the elevator bank. Unilev wanted the entire floor 12 East to create an atmosphere of collaboration and hospitality with much more character than your typical, white-walled offices. Unilev selected AMB Architects to provide programming, space planning, interior design, construction documentation and construction administration.

The renewed space has seven move-in ready suites that share first-class amenities and common areas. High-end modern finishes, bright corridors flooded with natural light, Houston-centric wall graphics and enhanced wayfinding elements distinguish The Hub from other floors in the aging building. Common areas and the conferencing facilities in The Hub have the latest technology infrastructure, plus Wi-Fi connectivity throughout. The Hub is where high-tech meets urban cool. Altogether, the space totals 18,000 square feet; suites range from 1,919 to 3,413 rentable square feet. If a tenant chooses, it may request adjacent suites be combined.

VR ‘Walkthrough’

Color plays an integral role in a company’s branding, so AMB Architects provided simple yet flexible materiality solutions. Although each spec suite was designed with a specific color palette, elements, such as wall color and carpet tiles, can be easily pulled out and replaced. Anticipating tenants would want high visibility, each suite has sliding glass office fronts. To infuse Houston’s urban personality in the common areas, AMB presented several rounds of interior finish options and custom details, such as an LED sign of the Houston skyline and a mural of the iconic Houston “Be Someone” graffiti bridge.

Using a variety of finishes, such as distressed brick, concrete and wood, the team worked in tandem with the building owners and leasing agents to create a one-of-a-kind concept. The difficulty came in presenting the design options to the owners for approval because they are located in California and Tel Aviv, Israel. The architects developed the ideas and imported them into a virtual reality platform, so the brokers and owners could “walk” through the proposed design. This provided a sense of the spaciousness, the penetration of the natural daylight, the level of finishes and the layout of the shared amenities, which gave everyone—even those 1,500 miles away—a sense of the unique selling points of The Hub while it was still in design. Using virtual reality also allowed the team to make tweaks to the design in response to current market conditions, ensuring the final result would be a competitive option for prospective tenants.

Shared Amenities

The finished renovation resulted in a unique combination of a complete spec office and a co-working space. It gives small businesses the opportunity to have a new, first-class office space loaded with amenities but without upfront construction costs. Like a co-working space, the seven tenants within The Hub share common areas and amenities. These include a lobby with powered soft seating, a large breakroom with a coffee bar, two conference rooms with HDTV displays and ClickShare technology, as well as private meeting rooms.

To avoid bringing unwanted germs into the shared spaces, the architect incorporated health-safety measures, such as MERV-13 air filters and high-output germicidal ultraviolet lamps.

Unlike a typical co-working space, each tenant has its own suite with a lockable entrance. Each suite has its own reception area with an accent wall feature made of felt for sound absorption. Six of the suites have private offices with floor-to-ceiling glass walls and sliding glass doors. Three of the suites have balconies that overlook the central atrium of the GFC. Since opening in June 2021, six out of seven suites have already been leased.



■ THE OWNER UNDERSTOOD

THAT, FOR THE FIRST TIME IN HISTORY, PEOPLE WHO GREW UP IN THE DIGITAL AGE NOW MAKE UP THE MAJORITY OF PEOPLE IN THE WORKFORCE, BRINGING INNOVATIVE IDEAS BUT ALSO NEW DEMANDS ON THE TYPE OF WORK ENVIRONMENT IN WHICH THEY THRIVE.





BEFORE



AFTER



BEFORE



AFTER



THE HUB IS NOT YOUR BASIC SPEC SUITE. FROM THE CLASS A FINISHES TO THE AMENITIES, IT PROVIDES AN AFFORDABLE, HIGH-END OFFICE SOLUTION FOR STARTUPS AND SMALL BUSINESSES THAT WANT THEIR OWN DEDICATED SUITE.

Wayfinding

AMB Architects had to ensure The Hub would be easy to locate within the confusing maze of dark corridors. The GFC has a sky bridge connecting the East and West wings with an elevator bank in the middle. Visitors exit the elevator and then have to look at small lettering on glass doors to figure out where to go. For The Hub, AMB designed custom wayfinding in keeping with The Hub branding. A large “12E” in The Hub’s signature lettering is featured immediately out of the elevator at the 12th floor. AMB also extended interior finishes, like the wood ceiling from The Hub lounge, out to the edge of the elevator lobby, so visitors would immediately know where to


go and have a true welcoming experience.

AMB Architects also capitalized on the ample daylighting in the GFC atrium, bringing it deep into The Hub. Instead of locating corridors through the interior of The Hub, the design team moved them to the building perimeter, along the windows, not only bringing in more daylight, but also improving sightlines through the entire office.

Urban Cool

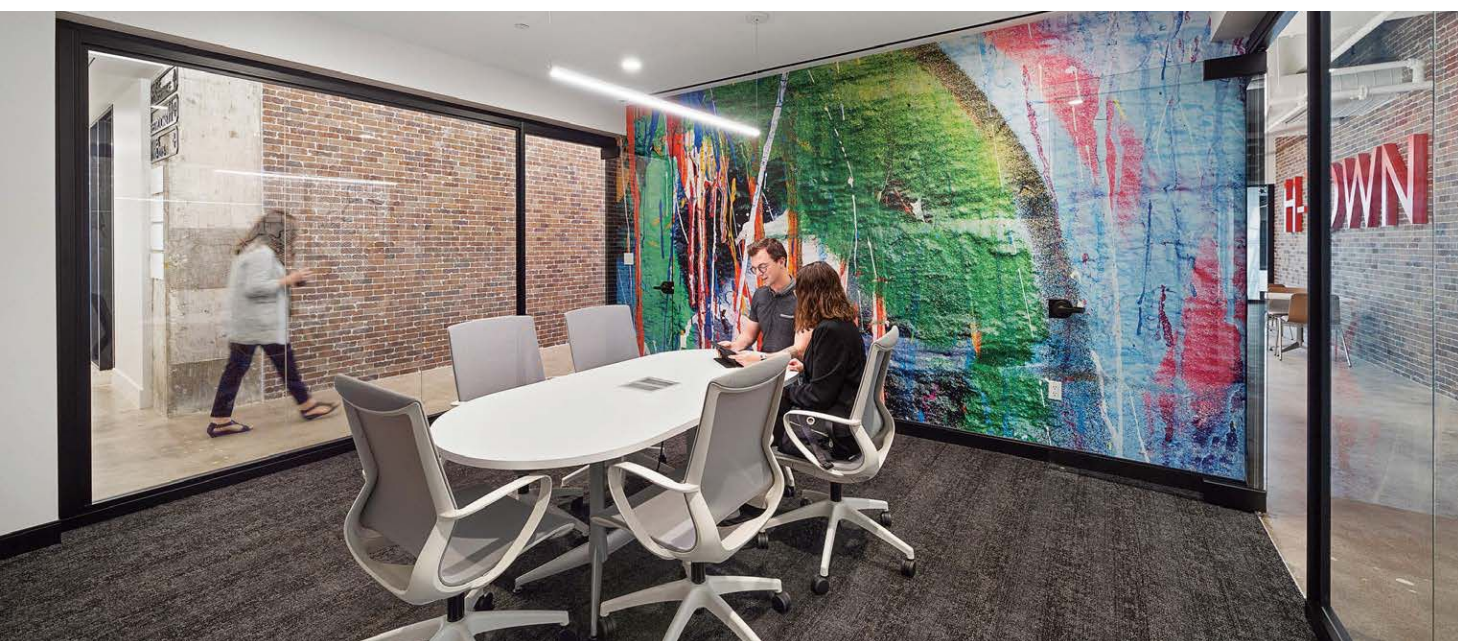
The Hub is not your basic spec suite. From the Class A finishes to the amenities, it provides an affordable, high-end office solution for startups and small businesses that want their own dedicated suite.

Unilever invested more to create a dynamic and modern work environment with the flexibility smaller businesses need. The owner understood that, for the first time in history, people who grew up in the digital age now make up the majority of people in the workforce, bringing innovative ideas but also new demands on the type of work environment in which they thrive.

The interiors of The Hub are an edgy departure from traditional office interiors. All the custom wall art, pops of bright color, raw finishes and unique signage make for a very memorable environment. It’s a place where tenants and staff can get motivated, be energized and feel a sense of pride in their office. 



■ **LET'S HEAR IT FOR H-TOWN!** THE OVERSIZED HOUSTON-THEMED ARTWORK THROUGHOUT THE HUB REMINDS EVERYONE WHO ENTERS HOW MUCH HOUSTONIANS LOVE THEIR CITY.



BUTLER SQUARE REFRESH

WRITTEN BY | ANGELA SAMARGIA, CPM, RPA, LEED AP

A 1906 Multi-tenant Office Building Receives Upgrades that Honor Its History of Sustainability

PHOTOS: TOM WALLACE unless otherwise noted



At first glance, the bright and uplifting “Refresh” of Butler Square, a historic multi-tenant office building in Minneapolis, seems like a response to the global pandemic. However, though the building’s new amenities are in especially high demand by organizations striving to strike an ideal mix of in-person, hybrid and/or virtual work, this project’s vision took shape much earlier. In mid-2019, Jane Mauer, president of Butler Properties LLC, the building’s owner, conducted walk-throughs with Alliaance, the architecture firm. Construction began in January 2020 and was completed by spring 2021.



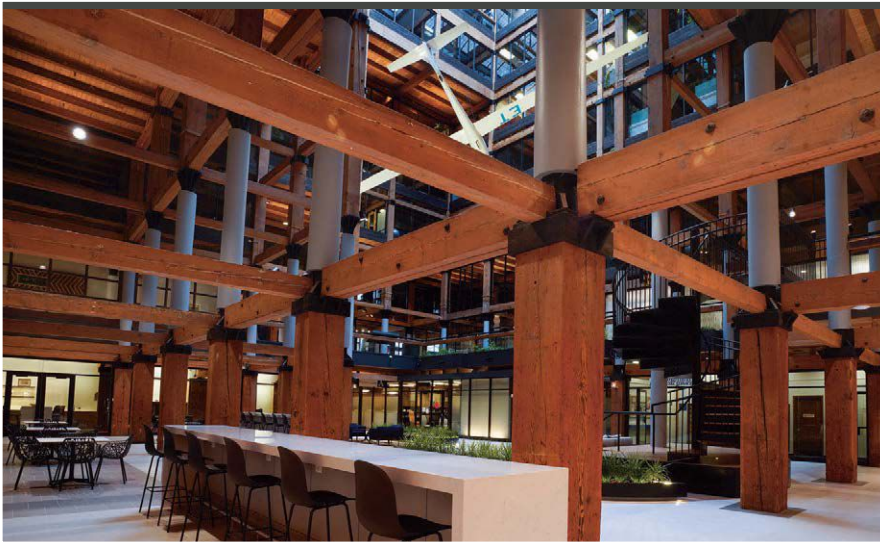
“The timing of the Butler Square Refresh has turned out to be ideal,” Mauer notes. “Construction began shortly before Minnesota’s COVID-19-related stay-home order was announced, and the finishing touches were completed in early 2021—just in time for the post-pandemic surge of economic, recreational and cultural activity. We are pleased to lead by example and to provide an inspiring place where an active, engaged, and growing pool of urban dwellers can work near their homes and enjoy all our city has to offer.”

SUSTAINABLE AND WELLNESS-FOCUSED

It’s serendipitous that many of the decisions made when Butler Square was first constructed in 1906—and improvements made by each of its owners—have been sustainable, meeting Mauer’s own desire for sustainability and wellness.

For example, the Douglas fir timber used for Butler Square’s famous timber post-and-beam structural system was harvested in northern Minnesota at one of the original owner’s tree farms. The brick used to construct the building was made in Chaska, Minn. The two atriums added in the 1970s introduced natural light into the building’s interiors and foster a sense of community by allowing occupants to view a wonderful range of activities occurring in adjacent areas.

“Butler Square’s first owner, T.B. Walker, invested in high-quality architecture, materials and construction. When Charles Coyer took ownership in 1972, his decision



THE LIGHTING DESIGN AND NEW FURNISHINGS AND FINISHES WERE SELECTED TO AMPLIFY THE BUILDING'S MOST NOTEWORTHY ATTRIBUTES: ITS TIMBER FRAMEWORK, BRICK WALLS AND WOODEN CEILINGS.

to transform The Butler Brothers Warehouse into a mixed-use commercial office and retail destination named Butler Square helped catalyze revitalization of the Minneapolis Warehouse District," Mauer explains. "In 1979, the third owner, Jim Binger, redeveloped the west half of the building, making sure this part of the renovation was compatible with the first phase. He enhanced Butler Square's beauty and performance by adding the West Atrium, new office and retail tenant spaces, and high-efficiency building systems. He had the 'Speed Astir Glider', the 'Circus Fliers' sculpture by George Segal, and other art installed in public spaces for enjoyment by the building's occupants and visitors. As the fourth owner of this landmark building, I have continued this legacy by investing in ongoing upgrades to the building systems and refreshing and adding amenities that are not only highly valued by our tenants, but that also resulted in Butler Square receiving continued awards and accolades for its beauty; sustainability; connections with our community; and focus on healthy, high-performance operations, maintenance and management."

Mauer's commitment to high-quality facility operations and maintenance practices led to Butler Square achieving LEED EB O&M (2009) and LEED Silver EB O&M (2015) certifications. The building also has earned ENERGY STAR designation every year since 2008 and Outstanding Energy Performance awards from the city of Minneapolis in 2017 and 2018.

Butler Square also meets numerous health and safety standards that are now measured by national evaluation systems. For example, the building is BOMA 360 certified and WELL Health-Safety Rated as of 2021 through today. In 2022, Butler Square won the prestigious BOMA TOBY Award locally and regionally. The TOBY Awards consider all facets of a building's operation, including community involvement, tenant relations, site management, and green policies and procedures.

THE REFRESH

The main challenge the project team faced with the Refresh was maintaining the historical integrity of the building's architecture and interiors while using new materials and technology to modernize





THE TEAM AGREED THE MONUMENTAL POST-AND-BEAM STRUCTURE THAT HAS WORKED WELL FOR MORE THAN A CENTURY WOULD BE LEFT UNTOUCHED AND, INSTEAD, BE HIGHLIGHTED.



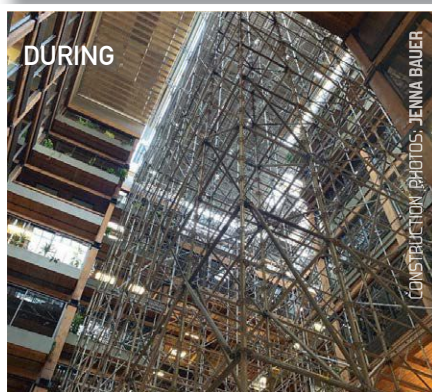
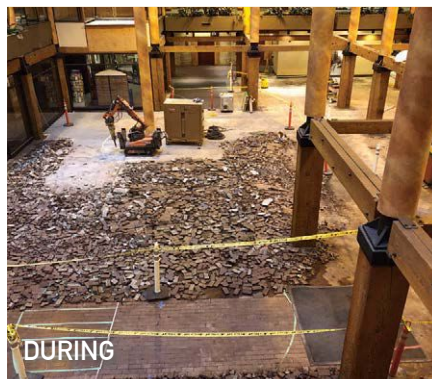
and expand the existing amenities. The project team overcame this challenge by working cohesively—from the designers and builders to the management staff and owner. The team agreed the monumental post-and-beam structure that has worked well for more than a century would be left untouched and, instead, be highlighted. The lighting design and new furnishings and finishes were thus selected to amplify the building's most noteworthy attributes: its timber framework, brick walls and wooden ceilings.

The new white floor tile boosts natural light levels and amplifies the impact of the building's soaring atriums. The replacement of the skylights in the West Atrium (2005) and East Atrium (2021) reduce heat gain and increase natural light levels.

High-pressure sodium and fluorescent sources in the public areas were replaced with high-color-rendering, warm-white LEDs. The lighting retrofit also added specialized fixtures to accentuate gathering places and art, uplight wood ceilings above corridors and enable management team members to change the color of the spotlights in the East Atrium via an app. In addition, a lighting management system allows the facility management team to know—at a glance—the status of every light in the building.

Interior designers chose sophisticated, contemporary furnishings in classic shades of blue and gray to achieve a timeless look that harmonizes with the building's magnificent architecture and natural materials. A variety of seating vignettes in both atriums invite tenants to collaborate, work alone or in groups, or enjoy a meal prepared at the onsite café.

A new, black carbon-steel spiral staircase replaces the East Atrium's escalator and provides a pedestrian circulation alternative for the adjacent elevators. This staircase was custom-designed to relate the proportions of its spiral to those of the circular floor inset at its base. The stair-



THE FLOOR TILE WAS REPLACED TO BOOST NATURAL LIGHT LEVELS AND AMPLIFY THE IMPACT OF THE BUILDING'S SOARING ATRIUMS. THE REPLACEMENT OF THE SKYLIGHTS IN THE EAST ATRIUM REDUCES HEAT GAIN AND INCREASES NATURAL LIGHT LEVELS.

case's lower landing serves as a small stage during special events.

A new conference center features leading-edge, wireless video-conferencing technology and easy-to-clean, lightweight, mobile furniture. Ceiling-hung microphones and speakers make people feel as though they are standing next to each other regardless of their location. The adjoining kitchenette is flanked by two new, universally accessible restrooms.

A new private tenant lounge can be used by tenants during the workday and, by reservation, after hours. Comfortable, living-room-style furnishings and a food preparation/dining area make the lounge a


welcoming space for informal gatherings.

With the owner's green strategies in mind, McGough Construction and its sub-contractors instituted green construction practices during the Refresh. For example, the crew adhered to Veit Disposal's waste-stream recycling management program so that 90.47 percent of the waste generated from construction activities was recycled.

GOOD STEWARDS

The Butler Square Refresh is the most recent and highly visible expression of good building stewardship. Because planning, design and construction began well before the advent of the COVID-19 pandemic, the owner and building management team's decisions were based on their knowledge of tenant preferences and priorities. The value of new and existing onsite amenities has increased and, according to commercial real-estate industry experts, will remain high throughout the post-pandemic period—and beyond.

The timing of this project also is positive for the surrounding community. The building is close to restaurants, the arts district, light-rail and bus transit stops, major sports stadiums, highway and rail connections, and a growing group of urban dwellers. Minneapolis is primed for a post-pandemic surge of economic, recreational and cultural activity.

"Seeing the Butler Square Refresh come to fruition after a year of working from home was a hopeful reminder that tenants will be able to reconnect in the way that a lot of us have been craving," says Maggie Collins, facilities manager with Butler Square tenant Ability, an Inovalon Company. "The building itself is already beautiful, and the Refresh offers the perfect combination of a modern and historic feel. The collaborative spaces complement the office suites, allowing tenants to have different work options—something that is especially valuable in a post-COVID era. ... Butler Square is an enjoyable place to work!" 

» RETROFIT TEAM

OWNER // Butler Properties LLC,
www.butlersquare.com

ARCHITECT // Alliance, www.alliance.us

GENERAL CONTRACTOR // McGough
Construction, www.mcgough.com

PROPERTY MANAGEMENT // McGough
Facility Management, www.mcgough.com

ELECTRICAL CONTRACTOR // Parsons
Electric/PEC Solutions, www.pecsolutions.com

MECHANICAL CONTRACTOR // Kraft
Mechanical, www.kraftcm.com

INTERIOR FURNISHINGS // Fluid Interiors,
fluidinteriors.com

LIGHTING DESIGNER // Schuler Shook,
www.schulershook.com

» MATERIALS

ATRIUM FLOOR TILE // Buildtech/2.0 in Mud
and White, www.florim.com/en/floorgres

RESTROOM TILE // Metalworx, stone-tile.
www.metalworx.com/collection/tile/metalworx

CONFERENCE CARPET // The Portland Proj-
ect, Ridgeline, from Mannington Commercial,
www.manningtoncommercial.com

CONFERENCE WALLCOVERING // Tek-Wall
Lumen from Maharam, www.maharam.com

MAIN-LEVEL CARPET // Spin Collection,
RPM, from Mannington Commercial, www.manningtoncommercial.com

MAIN-LEVEL RUGS // Full Volume III from
Tarkett, commercial.tarkett.com

TENANT LOUNGE CARPET // Quadrant
Collection, Precision, from Mannington Com-
mercial, www.manningtoncommercial.com

QUARTZ // Weybourne from Cambria,
www.cambriausa.com

SKYLIGHT // Kalwall, www.kalwall.com

ALUMINUM ENTRANCE // CMI Architectural,
www.cmiarch.com

ENTRANCE HARDWARE // Allegion,
us.allegion.com

MIRRORS // Stylmark, www.stylmark.com,
and Seura, www.seura.com

PAINT // Sherwin-Williams,
www.sherwin-williams.com

ACCESS FLOOR // TecCrete from Global IFS,
www.globalifs.com

PLUMBING FIXTURES // Aftwall Millennium
Wall-Hung Toilet from American Standard,
www.americanstandard-us.com; Faucets from
Delta, www.deltafaucet.com; and
Verge Lavatory System from Bradley Corp.,
www.bradleycorp.com/verge

LIGHTING MANAGEMENT SYSTEM //

Control4, www.control4.com



LYNDALE PLANT SERVICES INSTALLED 2,500 PLANTS IN THE ATRIUM PLANTERS AND THROUGHOUT THE PUBLIC SPACES AS PART OF THE REFRESH. DECADES OF RESEARCH BY HEALTH EXPERTS HAS DEMONSTRATED THAT VIEWS OF NATURE CAN ELICIT POSITIVE FEELINGS, REDUCE ANXIETY, AND IMPROVE FOCUS AND PRODUCTIVITY.




INVESTING IN UNDERUSED
INFRASTRUCTURE IS
TRANSFORMING
COMMUNITIES

RECAPTURING STRANDED ASSETS

WRITTEN BY | ALICE SHAY AND UBALDO ESCALANTE, AICP

HIGH LINE PHOTOS: ERIC SOLTAN, COURTESY BURO HAPPOLD



The High Line has become one of New York City's highlight destinations, alongside Central Park, the Statue of Liberty and other mainstays. How quickly it became globally renowned is remarkable, but the High Line's provenance and development is even moreso: The linear park is the result of phased adaptive reuse of an elevated railroad route, reaching from midtown to downtown Manhattan. Derelict and abandoned by 1980 when trucks supplanted trains for freight, the railroad tracks were an imposing, gloomy hulk, blocking sunlight and sequestering portions of the Chelsea neighborhood. The High Line became a hub of subculture activity during the '80s, including queer convening and street art, a spark of alternative ethos that grew into a movement for adaptive reuse. Now it's a vibrant connector, a cultural resource and an accelerator of growth.

stranded assets | Defunct or underutilized infrastructure elements that have outlasted their original function but have potential for new uses that benefit frontline communities where they sit.

This is an iconic example of what we at Buro Happold have termed “stranded assets”, defunct or underutilized infrastructure elements that have outlasted their original function but have potential for new uses that benefit frontline communities where they sit. More often than not, stranded assets disproportionately impact low-income communities and/or communities of color, so their repurposing undergirds social and environmental-justice aspirations.

Through our global Cities Practice, Buro Happold has committed to development of thought leadership around this type of urban strategy: Urban planners, economists, and engineers working with likeminded professionals and multi-stakeholder public-private partnerships. The goal for each is a transformation of the infrastructure for a contemporary need, creating a boon for the community where once there was a burden with benefits rippling outward.

From Idea to Action

The High Line Network’s just-concluded 2022 Symposium in Miami represents a continued shift from the project itself to a global focus on underutilized infrastructure everywhere. The High Line organization continues to transition from best-case example to clearinghouse for ideas with outreach from offshoot groups, like the Public Space Alliance, which creates peer-to-peer stakeholder learning opportunities promoting solutions for equitable urban design and social and climate action.

To spur the movement’s growth, Buro Happold currently is leading a four-part workshop series for Public Space Alliance to illuminate the stranded assets process, sharing nuts-and-bolts information project leaders need to realize a vision for infrastructure reuse:

- ① Assessing cost and impact.
- ② Supporting a climate action plan.
- ③ Addressing mobility and equitable access.
- ④ Finding public sector champions to take projects over the finish line.

It’s critical to articulate a clear vision for reusing an infrastructure element effectively. Project leaders must also program for the future, tying the reuse strategically to parallel efforts in planning and economic development to see the project

THE VERDUGO WASH



THE VERDUGO WASH



ERIE CANAL POCKET

RENDERING: BURO HAPPOLD,
MICHAEL VAN VALKENBURG ASSOCIATES

ERIE CANAL MOVABLE DAMS

PHOTO: BURO HAPPOLD, OFFICE FOR VISUAL INTERACTION,
MICHAEL VAN VALKENBURG ASSOCIATES

completed and the new use endure. Thorough visioning wins allies, which are key to long-term success.

Synergy: Climate Action, Social Equity

One reuse project gaining steam out west provides a valuable window into the early stages: The Verdugo Wash—a 9-mile tributary to the Los Angeles River located entirely within the city of Glendale, Calif.—was lined in concrete almost a century ago as a flood-control strategy. This utilitarian form had multiple unintended consequences, reducing public access to the waterway and dividing communities, as many highway projects of that era did, while negatively impacting the local ecology. In an effort helmed by Glendale’s assistant director of community

development, Bradley Calvert, AICP, a call for proposals was issued.

Working with urban design firm Imelk, we fashioned a practicable vision for a linear park: making the river accessible and visible, adding pedestrian and bicycle paths, and incorporating ample space for events and activities—a community asset. The proposal also included strategies aligned with the city’s plans for growth and resiliency and with L.A. County’s new climate action plan, such as establishing connections between Glendale neighborhoods, improving existing flood-mitigation strategies and reintroducing natural habitat for wildlife.

The plan’s components supporting climate action and addressing social justice for adjacent communities of color

are precisely what ensures its long-term success and what helped win support from Glendale’s city leaders by creating synergy with existing development plans. Construction for portions of the plan has already commenced.

Planning for the Future

Late in each project it becomes essential to develop a management team for the infrastructure’s new use. This is essential; management of a park or cultural site has very different requirements than that of a railroad spur or a flood-control waterway.

This is the current stage of the “Re-imagine the Canals” project for the New York State Canal Corporation and the New York Power Authority, which Buro Happold supported with a strategic visioning effort



JAMAICA BAY GREAT URBAN PARK

for adaptive reuse of the 524-mile-long Erie Canal system. The Cities Practice team's work concluded with helping form a Reimagine the Canals Task Force composed of key stakeholders and experts to realize the vision of returning use of the canal to adjacent communities while celebrating its heritage and history with ecological restoration, climate resiliency and economic regeneration as guideposts.

Following the 2020 announcement of a redevelopment initiative by the New York governor's office, work is underway on multiple components, including an interactive, hydro-powered series of illuminated "movable dams", a tribute to the canal's history as an engineering marvel. The task force supports client stakeholders to ensure sustainable management for recreational and cultural uses.

Widening the Lens


As this global movement grows, more stranded assets opportunities emerge. Not every project needs to be an adaptive reuse with a radically new program for the infrastructure; underutilization is just as

important to address as total abandonment. A strategic vision for taking what is already there and making it more accessible and appealing is just as valuable.

This is the case with Jamaica Bay Great Urban Park on New York City's eastern edge, where 10,000-plus acres of land surround a biodiverse urban estuary. Historically, sections of the parklands were separately owned and managed by the National Park Service and city. Now, a joint effort has created one massive unified park. This complex project involved developing new models for alternative means of governance and collaborative park management; coordinating efforts by interested groups; and re-envisioning transportation, access, mobility and ecological preservation. The revitalized parkland has delivered new opportunities for enjoyment by residents and tourists while protecting wildlife.

Similarly, Buro Happold led an effort to enhance the use of Chicago's Pedway, an underground network of pedestrian corridors connecting public and private buildings across downtown Chicago. Starting with analysis of the network, our team led

an effort to attract more traffic, improve wayfinding and create areas of interest—even spectacle—to enliven the experience. The project has been a success, and the return on investment realized could foster additional future enhancements.

The moment is ripe for stranded assets revitalizations. The recent federal Inflation Reduction Act legislation will soon pour massive amounts of funding into infrastructure projects nationwide, which could energize reuse plans and kick off synergies through public-private partnerships. Meanwhile, infrastructure everywhere around the world is getting a second look. The ongoing redevelopment of the Battersea Power Station is a perfect example in which a decommissioned coal-fired power plant now is home to such uses as residential, entertainment, dining and shopping with new transit connections and other strategies for access, bringing people back to the Thames River in southwest London. Assets like these require effort, time, resources, and careful analysis and guidance to transform effectively and sustainably, but the results speak for themselves. 

CHICAGO PEDWAY RENDERINGS: DAVIS BRODY BOND, COURTESY BURO HAPPOLD



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TOWER GROVE

A Park's Rundown Victorian Pavilions Are Lovingly Restored



PHOTOS: SAM FENTRESS unless otherwise noted



Peened nickel-based welding repairs were made at the cast-iron columns of the Turkish Pavilion. Air-hammer peening consisted of striking and spreading nickel-based weld beads and slowing the cooling rate by using insulating blankets. The process minimized stress on the cast iron as it cooled.

Considered to be the best and most complete example of 19th century urban park design in the United States, Tower Grove Park in St. Louis is one of only seven parks designated as a National Historic Landmark. It also is at the center of the most culturally diverse area in the city, serving as the anchor and economic stabilizer of several historic neighborhoods and business districts.

The park boasts the greatest collection of Victorian Pavilions

in the world. Designed and constructed between 1870 and 1872, each pavilion has its own unique, ornamental design articulated through details and vibrant paint colors, creating one-of-a-kind structures. Well-loved and in constant use, the pavilions had begun to show extensive signs of structural and cosmetic deterioration.

Trivers restored the Turkish Pavilion and Old Playground Pavilion, completing them in July 2021. The restoration

included repair and patching of terne metal roofs, new paint coatings (in custom colors to match the original) for the roofs and ornamental features, repair of ornamental and structural wood, new foundations and cast-iron column repair. A new exposed concrete pad improves accessibility to and through the structures. Strategically placed lighting allows the pavilions to be seen after dusk, creating a museum-like curation of these special Victorian structures. 

RETROFIT TEAM

ARCHITECT // Trivers, trivers.com

STRUCTURAL ENGINEER //

KPFF, www.kpff.com

LIGHTING DESIGNER // Reed

Burkett Lighting Design, rbldi.com

GENERAL CONTRACTOR //

Vanstar Construction Co.,
vanstarconstruction.com

CONCRETE // Vee-Jay,

www.veejaycement.com

CARPENTER // Megeri LLC, (314)

941-1240

SHEET METAL // Missouri Builders
Service Inc.,

www.missouribuilders.net

PAINTER // Spectra Painting,
spectrapainting.com

CAST IRON REPAIR // Acme

Erectors, acmeerectors.com

MATERIALS

WOOD ADHESIVE, EPOXY //

LiquidWood and WoodEpox from
Abatron, www.abatron.com

SEALANTS // Sher-Max Elastomeric

Sealant (general use) from Sherwin-
Williams, www.sherwin-williams.com

com; Dymonic 100 Sealant (roof

joints) from Tremco, www.tremco

sealants.com; and Vulkem 445

SSL (concrete flatwork joints) from

Tremco, www.tremcosealants.com

METAL ROOF COATING // R-Mer

Coat from The Garland Co. Inc.,

www.garlandco.com

LIGHTING // B-K Lighting, bklighting.com

com; Insight Lighting, insightlighting.com

com; and Lyte Poles, lytepoles.com



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A modern interior space with a large window and a wall, both labeled R16. The room has a wooden floor and a white wall. The window looks out onto a city skyline. The wall is on the left, and the window is on the right. Both are labeled with an orange box containing the text 'R16'.

R16

R16

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