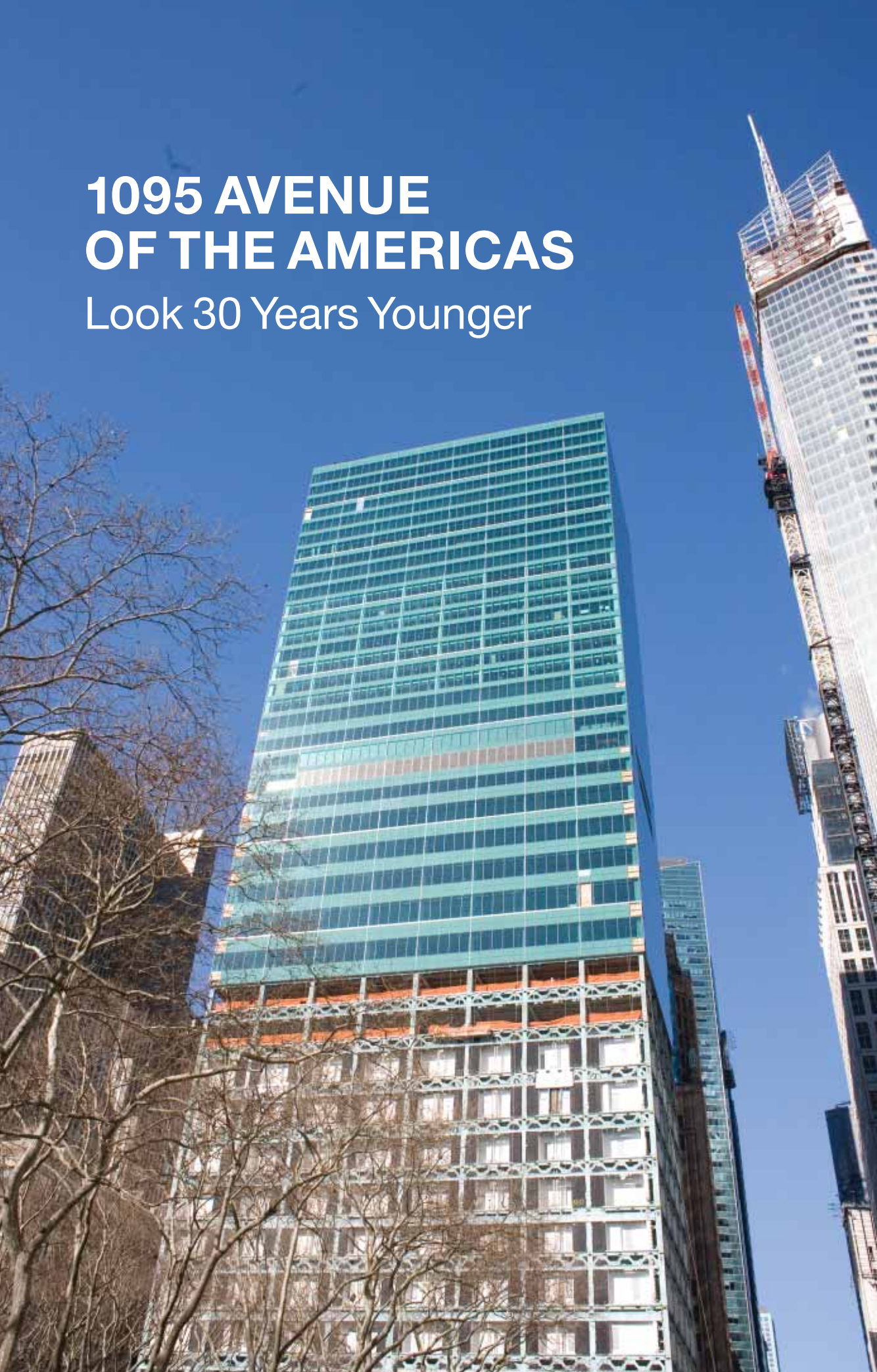


1095 AVENUE OF THE AMERICAS

Look 30 Years Younger



Facing By stripping the existing structure of its antiquated skin and replacing it with a high-performance facade, the owner saved money on a new structure and on long-term operating costs.

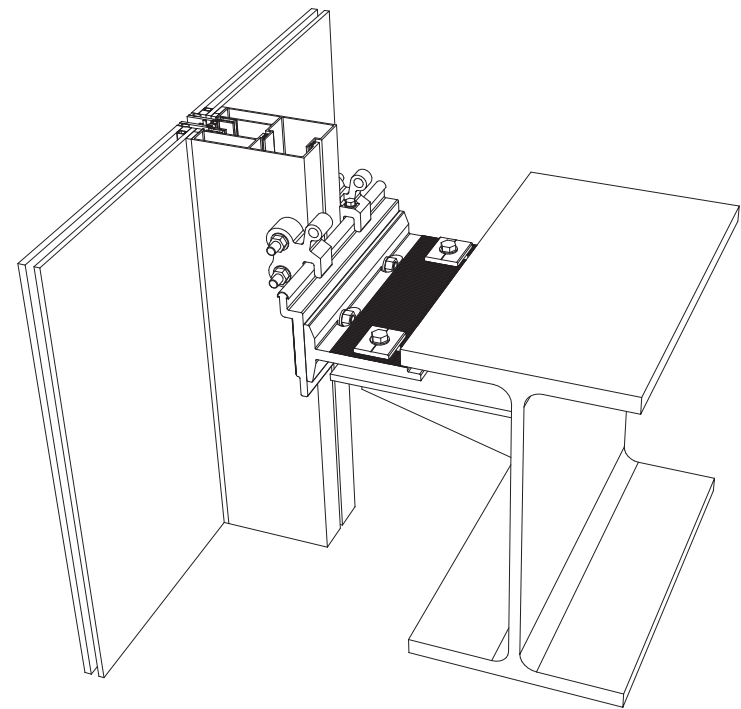
Above Silver-painted mullions form a grid that unifies the exterior.

Below The designers developed a new clipping system that welds to the spandrel beam and clips to the facade panels.

As Manhattan's large stock of modernist skyscrapers from the 1960s and '70s continues to age, building owners are struggling to maintain the viability of their properties in the face of competition with the next generation of office buildings. One of the ways that developers are now tackling this problem is by stripping their properties to the bone and re-cladding them with modern, high-performance curtain wall systems, a move that not only improves energy efficiency but can open interiors to a whole new world of light and views.

In 2005, when Chicago-based Equity Office acquired 1095 Avenue of the Americas, also known as the Verizon Building, they recognized the potential of its prominent Bryant Park location. But they also realized that no major commercial tenant would dream of moving their offices into its antiquated

shell. Originally designed by Kahn & Jacobs and completed in 1974, the 40-story tower featured a black glass and white marble facade that let in too much wind and not enough light. In addition, the old induction units that ringed the perimeter of the floor plates cut down on rentable space and further separated tenants from light and views. On the other hand, the primarily steel superstructure was sound and featured floor-to-ceiling heights of 14 to 20 feet, which are right in line with, if not greater than, contemporary expectations. After running the numbers, Equity made the decision to strip the building to its frame and refit it with up-to-date mechanical and cladding systems, rather than knock it down and start from scratch. "For a Class-A building today, high-performance glazing is key," says Equity's Bob Winter. "It gives more efficiency and keeps operating costs down."



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Equity hired architects Moed de Armas & Shannon (MdAS) and Gensler to reclad 1095 in an all-glass skin and replace the induction units with an overhead displacement ventilation system. But implementing this redesign required more than just inspired planning, it required creative construction management. For one, Verizon, the anchor tenant, needed to continue occupying its floors, 6 through 12, while the building was taken apart and put back together. Also, Equity leased out most of the property's remaining one million square feet early in the process, giving tenants move-in dates that severely strained the construction schedule. Taking these challenges in stride, Tishman Construction got down to work, developing an innovative approach to the job that met the client's needs and became a first for construction in New York City.

Before they could put the new skin on, Tishman had to remove the old one. Workers first stripped the metal and glass, recycling the metal and sending the glass to the landfill. Then they turned their attention to a more complicated component: the marble, which was glued to large precast panels. The stone and concrete were sawn apart and the stone was sent for reuse in road projects. With only limited recyclability, the concrete was broken up and carted off. Before uncovering the Verizon floors, Tishman erected temporary weather walls to keep the 160 employees stationed there comfortable. The contractor also insulated the standpipes throughout the building to keep the water available during the freezing winter months. Once the skin was removed, workers cocooned the floors, abated the asbestos, and applied new fireproofing to the steel structure. As this team moved on, the new curtain wall panels were loaded onto the floors, ready to be installed.

After the prep work was finished, the new cladding system was ready to be installed. The original plan had been to reuse the old imbeds to hang the new curtain wall, however testing revealed that they did not meet current code standards for wind loading. In response, the designers developed a new clip system: a steel component that welds to the web of the spandrel beam and clips to the panel. The new clips also helped

achieve the architects' goal of creating an extremely sheer surface for the new glass wall. Not only did the architects specify extra-thick Viracon glass for the curtain wall units to cut down on distortions in the surface ($\frac{1}{8}$ -inch outer lite and $\frac{1}{16}$ -inch inner lite), they developed a clip system that can be adjusted to $\frac{1}{32}$ of an inch. These steps allowed the new skin to absorb tolerances in the frame to create a truly flat plane. Workers using laser surveying tools carefully positioned each clip before attaching the wall to ensure this would happen.

In order to meet the move-in dates of some tenants, Tishman developed an innovative installation sequence for the enclosure. The curtain wall, fabricated by Benson, is a stacking system designed to be erected from the bottom up. But the schedule demanded that the upper floors be sealed first. Accordingly, Tishman began installing the wall at various places up the elevation, starting with the section that went from the 31st floor to the roof, followed by the 14th floor to the 30th, and finally from the ground to 13. "By overlapping the installation we saved eight months on the schedule," explains Patricia Hauserman, Tishman's project director. To make this work, the team created what they termed "zipper floors," where each section of the wall comes together. At these floors the last panel that joins the two sections does not have a spandrel. It rests in the spandrel below and clips into the one above.

By preserving 1095's structure and renovating it with contemporary cladding and mechanical systems Equity didn't just create Class-A office space, they also saved untold tons of materials from winding up in the land fill. The beauty of this story is that it wasn't just the most environmentally responsible decision, but also the most economic. "We saved on the cost of a new structure, as well as on costs for demolition, new foundations, and having to negotiate new zoning laws. That saves a lot of money," says Winter. Thanks to the ease and speed with which panelized curtain wall systems can be fabricated and fitted to an existing structure, especially one that is steel framed, this alternative to upgrading Manhattan's building stock is now a real possibility. ■



Facing and above The wall is a stacking system of unitized panels that slide into the panel below and clip in above.



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Facing and above By installing the wall starting at various heights along the elevation, the team was able to seal certain floors to meet client move-in dates.

1095 AVENUE OF THE AMERICAS

Owner: **Equity Office**, Chicago, IL
Architect: **Moed de Armas & Shannon**, New York, NY;
Gensler, New York, NY
Structural Engineer: **Robert Silman Associates**, New York, NY
Mechanical Engineer: **Cosentini Associates**, New York, NY
General Contractor: **Tishman Construction**, New York, NY
Curtain Wall Consultant: **Israel Berger & Associates, Inc.**, New York, NY
Miscellaneous Steel Erector: **Hallen Welding Service**, Long Island City, NY
Architectural and Ornamental Metal Erector: **Melto Metal Products**, Freeport, NY
Curtain Wall Fabricator and Erector: **Benson Global**, Portland, OR