

GLORY RESTORED CASE STUDY

BELDEN-STRATFORD
CHICAGO, IL





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“Replacing the windows made the biggest transformation for the entire building on the exterior.”

Alex Krikhaar, AIA
Principal, Vinci Hamp Architects

+ PROJECT SNAPSHOT

Lead Architect
Solomon Cordwell Buenz

Historic Architect
Vinci Hamp Architects, Alex Krikhaar

General Contractor
Bulley & Andrews

Installer
Jensen Window Corporation

Product
GT6700 Fixed and Casement Windows
GT2200 Fixed and Single Hung

+ CHALLENGE

An iconic 100-year-old building was undergoing a complete historic restoration, but none of the original window drawings existed, the only photographs from the era were black and white, and the original windows had been replaced in the late 1980s. Patience, diligence and teamwork led to a striking success.

+ GLORY RESTORED

The Belden-Stratford marked its 100th birthday in October of 2023, yet it appears untouched by time. It has recently been reborn as an exclusive apartment building following an ambitious three-year restoration backed by owner and Morningstar founder Joe Mansueto.

The 16-story landmarked structure, originally a luxury hotel, overlooks the Lincoln Park Conservatory and the Lincoln Park Zoo while offering its residents sweeping views of the Chicago skyline, Navy Pier and Lake Michigan.

Windows from Graham Architectural Products figured prominently in the restoration. “Replacing the windows made the biggest transformation for the entire building on the exterior,” said historic preservation architect Alex Krikhaar, AIA, principal at Vinci Hamp Architects.

It wasn’t easy. It took a lot of detective work, teamwork and plain old hard work among Krikhaar, Graham and Jensen Window Corporation. “I think the fact that we had a great team in place was really key to the success of this project,” Krikhaar said.

Different floors, different challenges

Bill Wilder, Graham’s director of technical sales, said the project had four distinct components from a historic window replication point of view. The first floor required replicating the original steel window profiles and the restoration of six entrances. The main entrance was returned to its original configuration, and Jensen used Graham windows and accessories to create the new openings.

Levels two and three involved matching the original wood windows. Included were operable curved casement windows with decorative brickmolds and mullions, some that filled openings as large as 8 feet wide by more than 18 feet high. Complicating matters, some of the window openings spanned both levels, while others were divided by terra-cotta spandrel panels.

Levels 15 and 16 included monumental openings with terra-cotta spandrel separating the floors. The 15th floor was fitted with double hung windows in an ornate surround, while the 16th floor required large curves with profiles to match the windows below.

The shaft was the largest phase of the project and included more than 1,200 openings. These openings were fitted with a custom panning profile to match the original wood windows.

Pinpointing historic detail

The original windows had been replaced in the late 1980s with little thought to historic integrity. And none of the building’s original drawings—other than structural drawings—existed.

“Fortunately,” Krikhaar said, “we had black-and-white images that Hedrick Blessing took in the 1930s. From those, we were able to establish the exact muntin layouts for each window, and the number of ganged windows within an opening. We could see the way the windows were divided. We could also tell that in some cases those divisions lined up with the terra-cotta spandrels between windows.”

Over time, more details emerged. During the investigative demolition of some of the 1980s windows, the team discovered the original wood brickmolds. Jensen and Graham used these to design the custom panning profiles for the project.

Then, when scraping away the paint layers on the 16th floor (where some of the original windows remained), they discovered the original color: Jamestown Blue. It was an unexpected find. Krikhaar said, “That caused sort of a shock in the neighborhood when we started on the ground floor. Those were the first windows we replaced, and we used that light blue. I knew people living in the neighborhood, and they kept asking me, ‘Is that the final color?’

“And I’d say, ‘Yes, that’s the final color. The whole building is going to be like that.’ And people thought we were out of our minds, but now that it’s all in place, the building has sprung back to life again.”

Overcoming challenges

To earn federal restoration tax credits, the work required approvals from the National Park Service. Because of its landmarked status, it also needed approvals from the Commission on Chicago Landmarks and the Illinois State Historic Preservation Office.

Getting there required clearing hurdles.

- Matching the historic details while meeting structural requirements was tough. Wilder explained, “The windows had to mount to structural steel either inside of the mullions or behind the windows. The vertical mullions had to be narrow but hold a certain amount of structural strength, and that meant they needed to be deeper than the window system.” Yet, as Krikhaar noted, the windows could be recessed no deeper, nor pushed out any further than they were in the original installation.

- The joinery was an issue too. “We went as far here at Jensen as to 3D model some of the components. They were just so custom, and there were so many different planes and parts and pieces marrying up to one another. The only way to understand if they were going to work or how they were going to work together was to 3D model them,” said Tim Green, project manager for Jensen Window Corporation.

- Proving the joinery could work was only part of the solution. Making it work was another. The task, as Wilder put it, was simplifying field fabrication and sealant application so the joinery—particularly at the ornate mullions and intersections—could be cleanly assembled with minimal work. Wilder called it “the design aspect of creating something that looked like what they wanted, but could actually be created in the field without crazy amounts of work.”

- The schedule was a challenge too. “We were on an accelerated schedule, especially considering the amount of things that needed to be measured and designed and the number of custom shapes that Graham had to provide,” Green said. Weekly team meetings and close coordination kept everyone on track.

- Finally, there was the need for heightened precision. Green personally measured every opening in the building—all 1,500 of them. And Krikhaar was continually refining his vision based on new developments. Krikhaar said, “Part of the refinements were that we couldn’t investigate exactly the placement of the original windows until we had demoed some of the 1988 aluminum windows. Once those were gone, we could see exactly where the old windows used to be, which allowed us to reconstruct over their profiles as best as we could.”

Familiarity breeds respect

In the end, it was yet another chapter in the long Jensen/Graham relationship. Green said, “We take an immense amount of pride in what we do. I think that’s why we’ve always been such a good fit with Graham Architectural—we share the same values.”



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