

Frame by Frame

The restoration of 1920s steel windows transforms a building at the Brooklyn Navy Yard.

By Lynne Lavelle

From the advent of the first steam warship in 1837, through the Civil, Spanish-American, World and Korean wars, the Brooklyn Navy Yard has secured its place in the history books of the United States, and arguably the world. At its peak, the yard was a world leader in battleship construction, employing more than 71,000 people by 1944, and manufacturing, repairing and remodeling some of the most important ships in the U.S. Navy and allied fleets, including the USS Iowa, USS Maine and USS Arizona.

The yard closed in 1966, but was purchased by the City of New York the following year and brought back to life as an industrial park. Today it is home to a diverse range of enterprises, including a movie studio, furniture manufacturer, ship repairer, architectural designer, electronics distributor and a jeweler. But as age, weather and standard repairs take their toll on the yard's 40-plus buildings, the question of whether to repair or replace failing elements has become a central one for its tenants.

When new tenant IceStone approached Irvington, NY-based Walter Sedovic Architects about the renovation of two buildings, addressing the poor condition of the steel windows was a top priority. Many of the original 1920s tilt-and-pivot windows were out of alignment, or missing panes of glass or hardware, resulting in substantial thermal loss and making offices extremely uncomfortable for employees. The company, which manufactures a certified "cradle to cradle" sustainable surfacing product, favored the philosophy of preservation, as opposed to the trend within the yard toward replacement. But the owners of the company were skeptical that restoration could meet their needs or their budget.

According to Jill Gotthelf, partner at Walter Sedovic Architects, high cost is a common misconception about restoration. "We showed IceStone and the Brooklyn Navy Yard the cost for new steel windows and the cost for restoring their windows, which was much lower than new steel windows," she says. "Interestingly, restoring the steel windows was comparable in cost to installing a far lower quality replacement window – not steel – which not only would have dramatically changed the look of the building, but also the amount of visible light and ventilation, due to a much larger frame and a much smaller operable window area."

Business as Usual

Contractor John Seekircher of Seekircher Steel Window Repair Corp., of Peekskill, NY, was a natural choice for the job, having worked successfully with Walter Sedovic Architects on restoration projects for 15 years. Seekircher repairs approximately 8,000 windows annually and, after 30 years in the business, is pre-qualified by the National Park Service to work on any national historic building. So the restoration of IceStone's buildings – more than 1,300 panes housed within 64 individual sash and frames for which there was no single prescription – was business as usual for the firm. Some were missing steel or hardware, and many were rusting or permanently opened. "We had to work on a case-by-case basis," says Seekircher. "Some were in decent shape, so they just needed to be stripped, to have



Seekircher Steel Window Repair Corp. restored these original 1920s steel windows at the Brooklyn Navy Yard, making the building an attraction on the Brooklyn Navy Yard Development Corporation's tour of businesses. All photos: courtesy of Walter Sedovic Architects

new glass put in and then painted. Others had been cut apart by air conditioners or fans. We just had to repair the windows so that they were operable. Now that they are back to good mechanical condition, I'm sure the windows will be functioning for the next 50 years."

All the original glass was replaced with 1/4-in. laminated glass to reduce noise pollution from the yard's high-pressure steam heating system – located nearby – and boost thermal efficiency. For the first time, employees were able to enjoy the views. "The biggest problem that they had in the office was that the glass was done in the '30s, and they couldn't see out of it," says Seekircher. "The office became a lot brighter because you can see out of the windows now. This, and tightening up the envelope of the buildings dramatically changed the comfort level." Because so much of the original hardware was missing or broken, Seekircher fitted uniform red-bronze locking handles to each window, sourced from the firm's extensive collection of historic hardware. "I've been collecting window and door hardware for the past 30 years, so we had enough to cover it," says Seekircher.



Many of the original window frames were misaligned or missing hardware or glass, resulting in substantial thermal loss and making the building look unattractive.



John Seekircher's team, which included his brother Robert (pictured), carried out the restoration in less than eight weeks, replacing more than 1,300 panes of glass and repairing and replacing missing steel and hardware.



Some of the windows were operational and required only replacement ¼-in. laminated glass, stripping and painting; others were permanently open.

Right: The clear replacement glass allowed employees to look out of the windows for the first time.



After fewer than eight weeks of on-site repairs, the windows transformed the building from an eyesore to a showcase – the Brooklyn Navy Yard Development Corporation now includes the building as a stop on its tour of businesses. And as an example of the economic and aesthetic benefits of preserving rather than replacing, the entire building renovation has had broader community benefits. “We are hoping that this idealism pervades the entire Navy Yard and it becomes an operating standard,” says Walter Sedovic, principal of Walter Sedovic Architects. “And I

have a feeling it will. Already, the Brooklyn Navy Yard Development Corporation has become much more open to the possibilities of restoration. We were actually trying to treat it as a community – one that could share resources. For example, if one building was removing concrete we could grind it on-site and use it for fill at another, rather than transporting it offsite and depositing it in a landfill. Similarly, if glass, steel windows or structural steel could be salvaged from one building for reuse in another, that would be a very positive and sustainable approach.” **TB**