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## New York Construction

### Cover Story - July 2006

#### Restoration Challenges

*Contractors and Designers Face Tall Order to Preserve Historic Details*

*by Jim Parsons*

Restoration and renovation projects in New York, New Jersey, and Connecticut are increasingly intricate affairs.

Despite many differences in the types and scopes of projects, many design and construction teams handling the restoration and renovation of aging buildings in the region face strict landmarks preservation rules as they try to counter the ravages of time, the elements, and neglect.

The margins for error have become even slimmer with the need to integrate modern infrastructure into an existing structure's physical constraints, maintain a building's historic integrity, and endure greater public scrutiny from preservationists and neighbors.

Some of the most visible projects involve extensive preservation of exterior features, the focus of most landmarks rules. A current example of the painstaking focus on restoring historic details can be found in Lower Manhattan where Seaboard Weatherproofing and Restoration of Port Chester, N.Y., is rehabilitating the limestone and terra-cotta façade of the Woolworth Building, the 94-year-old skyscraper designed by Cass Gilbert.



An analysis of the 60-story landmark building's envelope tallied approximately 2,000 cracked and delaminated stones up to 3 sq. ft. in size, as well as unsealed joints on the copper mansard roofs, said Jeff Smith, project manager for Seaboard.

"We're recreating hundreds of different types of terra-cotta stone, some of which are badly deteriorated," he added. "In some cases, we can use a similar piece to make a mold. In others, we have to get a little artistic, while also staying historically accurate." The \$5.25 million, 18-month project also calls for a high degree of logistical detail, Smith said.

"We have to catalog and track the location of every stone and coordinate the status of replacement pieces with the stone fabricator," he said. "That also means coordinating with the architect to ensure that the replacement piece matches the appearance of the original when we pin it to the façade."

Logistics have likewise added layers of complexity to a project in Midtown - the restoration of the east façade of the James A. Farley Post Office Building, which is in the early stages of an \$818 million conversion into a major new intermodal transportation hub that will be known as Daniel Patrick Moynihan Station.

The post office's Eighth Avenue entrances remain open, so Pittsburgh-based Graciano Corp., the exterior renovation contractor, has erected 50,000 sq. ft. of scaffolding to protect postal customers using five doorways while workers clean, repoint, and repair the granite façade; rehabilitate 21 distinctive Corinthian columns; and replace 33 window units.

"Overall, the exterior is in good shape, but a lot of areas needed some extra care," said Dino Rossi, Graciano's vice president of operations. "Many of the pine window frames had deteriorated, but we were able to reuse most of the components and adapt them for new insulated glass and weather stripping."

Reconstruction of an ornamental, 300-lin-ft. terra-cotta cheneau that once punctuated the roofline of the building's main entrances has required special attention, even though Graciano replaced other deteriorating portions of the original cheneau with brick in 1992.

"It will take a lot of technical effort to create hundreds of pieces of terra cotta to recreate the cheneau and match the architectural detail on other parts of the building," Rossi added.

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The complexities of restoration and renovation projects aren't just on the

exterior. Retrofitting structural features of buildings to handle new uses is often a highly technical process.

In Stamford, Conn., for example, NPK Building of Greenwich, Conn., is transforming 72,000 sq. ft. of manufacturing and office space into a modern mixed-use development called Atlantic Center @ Stamford Station, a portion of which will become the new U.S. headquarters of Virgin Atlantic Airways. The \$10 million project is slated for completion next summer.

The complex's original three-story wooden post-and-beam building, built by the Blickensderfer Typewriter Co. in 1892, was augmented with steel and masonry additions over the years as the property changed hands.

"The big challenge is to aesthetically blend new M-E-P, fire protection, life safety, and communications systems with the original interior," said Nicholas Kyriakos, president of NPK. "We also want to integrate modern amenities such as a three-story atrium and lobbies so that you have the efficiency of a modern building without losing the character and spirit of the original architecture."

Unlike many cases where historic features can be an obstacle, Atlantic Center's industrial heritage is an advantage.

"Because the building was designed to support a lot of heavy machinery, the timbers in the column, truss, and floor systems are structurally sound," Kyriakos added. "The generous ceiling heights also give us a little more leeway to integrate building systems without having to conceal historic features."

Converting the former Gallery of Modern Art at 2 Columbus Circle in Manhattan into the new Museum of Arts and Design also entails a structural reconfiguration. While the building's fundamental use will remain the same, the makeover is even more substantial than with Atlantic Center.

The slender, 12-story, 54,000-sq.-ft. structure built in 1964 had an eclectic strategy of stairwells that complemented the museum's avant-garde art collection, but wasn't appropriate for modern emergency egress needs, said Mark Pankoff, project executive for New York-based F.J. Sciamé Construction, which is construction manager on the \$65 million project.

"Floor-to-floor stairs were all over the building," he added. "Relocating them adjacent to the elevator core requires new structural steel on every floor."

The new exterior façade features 3- by 15-ft. terra cotta panels on a unibody curtain wall and 2-ft.-wide, floor-to-ceiling windows. The museum's decision to replace the façade drew criticism from opponents ranging from the National Trust for Historic Preservation

to ad hoc neighborhood groups, many of which contend that the original, largely windowless marble-clad façade was significant to New York City's architectural history.

The project has nonetheless moved forward, and Pankoff said the owner may well have had little choice in its decision.

"The spalling of the stone façade was already severe enough to require a sidewalk bridge to protect pedestrians," he added. "Even if the museum had decided to retain the appearance, we would have had to strip off the entire original façade."

### Discussions and Detective Work

Renovation and restoration efforts tend to elicit strong community reactions, often because of the historical significance of the structures, and project teams often have to handle the fallout carefully.



The renovation of the famed boardwalk Convention Hall, Paramount Theater, Carousel, and Power Plant buildings in Asbury Park, N.J. - part of a 56-acre redevelopment of the area called Oceanfront Asbury - illustrates how differences of opinion can arise in projects that otherwise enjoy wide support. The effort would cost \$50 million to \$60 million.

While local officials and the public have welcomed the renewal of the decaying 1920s-era structures into the new 250,000-sq.-ft. mixed-use development, the devil is in the details, said Larry Fishman, COO of Asbury Partners of Asbury Park, the project's developer.

"A project of this scale and complexity requires a partnership with state and local agencies, historic preservation experts, and the community as a whole," he added.

Agencies that must sign off on renovation details have differing priorities, particularly in buildings like the Convention Hall and Theater, neighboring buildings that are both still in use. For example, fire officials sought immediate upgrades to 80-year-old fire doors that may not be strong enough to support panic bars and other hardware, but the project team still needed approval from state historic preservation officials for the potential replacement doors - a process that delayed the start of other renovations.

"It's a little bit of a tug of war," Fishman said. "You need to have everybody working together."

Perhaps the most perplexing part of restoration and renovation projects is the challenge of unforeseen structural problems and incomplete or nonexistent documentation about a building's conditions.

Such issues are present in the multiphased restoration of Harlem's 92-year-old Apollo Theater. Chicago-based Jones Lang LaSalle is program manager on the \$65 million effort, which began in 2002 and involves renovation of the stage, seating, and exterior features as well as major infrastructure upgrades and improvements to meet federal Americans with Disabilities Act guidelines, said Randy Apfelbaum, senior project manager for Jones Lang.

While performing an exterior condition assessment of the theater in 2001, inspectors from Leslie E. Robertson Associates of New York, the structural engineer, discovered that many tieback rods supporting the famous marquee were loose, said Richard Zottola, principal-in-charge for the firm.

"We immediately installed scaffolding to shore up the marquee from below," he added. "It remained there until the new high-tech marquee was ready for installation last

December as part of the refurbished terra-cotta façade."

After the façade work wrapped up last winter, project crews began to replace seating in the theater during the spring. This summer they will be renovating the stage area. Other major restoration tasks in the theater, offices, and other spaces of the building will begin in 2008 and finish in 2010.

Zottola predicted that more surprises await as work on the other renovation tasks at the Apollo continue - even as the theater remains open for performances.

"There is no structural documentation for the building," Zottola said. "We'll need to do a lot of probing to locate the key structural elements, assess their condition, and determine what will have to be modified."