

# righting the *capitol* roof

CREWS START THE RESTORATION PROJECT AT THE NEW YORK STATE CAPITOL WITH 'COMPLICATED' EASE

By Vincent Brennan

*f*acilitating the restoration of a structure with any historical significance can be a challenge. Throw in the process of enhancing the roof and façade while maintaining the integrity of the building, and access professionals have got their hands full. But that's exactly what the roof restoration project called for at the New York State Capitol building in Albany, N.Y. Completed in 1899, the capitol building had undergone a variety of restoration projects throughout its distinguished history; the latest effort rehabilitates the entire east quadrant of its roof. The New York State Office of General Services is the client and majority owner for the project.

The exterior work on the building started with restoration of the slate, copper and terra cotta elements of the roof. Next, crews began the restoration of various granite sections of the building, flashing and waterproofing systems, and masonry. The \$48.7 million project, scheduled to be completed in 2014, also features replacement of two monumental skylights, along with related work on the interior laylights.

To ensure easy access to all of these projects, Consigli Construction Co. (Milford, Mass.), general contractor on the project, selected Tri-City Scaffold (Delanson, N.Y.) for its scaffolding and access options.

#### A Cut Above the Rest

With an extended history and a delicate jobsite, the access plan was crucial to completing the project. Consigli project team, Mike Boucher, Phil Brault, Adam Cirigliano, and Mike Walters needed a company that could work within a budget and inside the predetermined construction schedule.

But those weren't the only reasons Consigli chose Tri-City, according to its president, John James.

James credited his salesperson on the job, Richard Mann, for being well-versed in the product and its use on this particular jobsite. Mann was able to collaborate with Consigli executives to design an access system that would complete the project in the most efficient manner.

"There were other local scaffolding companies that were asked to bid on this project. My belief is that Tri-City Scaffold was selected for a few different reasons," Mann said. "First being that, as a company, we have an excellent safety record. Secondly, we have a history that shows we, as a company, have always made sure that the staging is erected to suit the needs of the contractor and the project."

#### In Comes Layher

When designing the access plan, James and Mann agreed to use Layher Allround System (Houston) as their primary scaffold. James explained that the Layher system is known for its versatility and quality, and he knew these specific attributes would be critical for the New York State Capitol Building's rehabilitation plan.

"The use of shoring frames for the overhead protection and 44-foot I-beams, designed by Ryan Biggs Associates of Troy NY, which created a platform rated at 150 psf, above the governor's driveway and also allowed the use of a staging area, not only for Tri-City Scaffold but also for other trades," Mann stated. "There are also four Hydro-Mobile (L'Assomption, Quebec, Canada) platforms with two 4,000-pound hoists on one tower to allow material to be



A complicated access system was designed to give workers an efficient solution for the restoration process.



The access system includes two 4,000 pound construction hoists.

## Taking Safety into Their Own Hands

If you're working on a restoration project of any height or design, you better have an expansive safety plan in place before you even hit the jobsite. With its years of experience, Consigli Construction knows of the dangers at hand in any rehab situation. Tri-City Scaffold (Delanson, N.Y.), which also worked on the site, is similarly experienced.

"Safety was one of the major concerns on this project due to the height and steep slope of the roof areas," explained Tri-City President John James. "At all times, personnel were to use harnesses, lanyard and lifelines. Consigli Construction has a very stringent safety policy that was followed to the letter."

brought up to the fifth floor, and a third hoist allows materials to be brought to the water table, when the tower crane was in use."

Like any multi-year restoration project taking place in the northern hemisphere, uncooperative weather impacted the process. Tri-City Scaffold workers, Consigli contractors and various trades had to deal with strong gusts of wind

and snow accumulation. With this phase of the project beginning in November 2009, Mann said it was important that Tri-City Scaffolding stayed on schedule. The versatile scaffold system played a major part in getting the job done on time and, more importantly, done correctly.

### Still Not High Enough

The interior restoration work, including

the assembly staircase and the lighting portion, was another complicated part of the project. The scaffold was built inside the existing staircase while all floor levels had to be kept open and accessible for state employees and visitors. The skylight restoration was more or less normal with a 137-foot work platform. According to Mann, the only twist was once the existing ceiling



Scaffold engineers had to consider changing weather conditions in developing their final design.



Extensive rehabilitation work was conducted on the exterior of the capitol building.

was removed and the new steel was in place, another platform would have to be installed within 3 feet of where the workers needed it. This process was repeated three times, and again Layher saved the day coming up with everything the crews needed.

Specifically, the Layher systems and Hydro-Mobile units serviced the structure's exterior up to the fifth floor. Because plans called for leaving one of the Hydro-Mobile units at the fifth floor elevation until crews completed the project, Mann said its placement created a challenge on how crews restored the rest of the building's elevation. Tri-City decided to call in additional reinforcements to design an alternative access system that would ultimately facilitate the completion of the project.

"What Tri-City Scaffold did was to come up with a concept, talk to Hydro-

Mobile, Layher Scaffold and Patuxent Engineering (Baltimore) and come up with a way to erect systems scaffold off the Hydro Mobile to get this work accomplished," Mann said. "As a team, all of us working together were able to come up with the design, engineered by Patuxent and approved by the engineers for the State."

By doing so, workers were able to complete the remaining work on the roof, water table, gutter and a large dormer that were located on some of the tallest sections of the building.

Other towers presented similar challenges for the access team. According to Consigli workers, tower No. 3 had seen better days, and tower No. 4 is scheduled for Spring of 2011. Numerous sections of the towers' terra cotta decoration had deteriorated and needed removal and replacement.

This restoration work required some alternative problem-solving, again by Mann, to avoid disturbing any other work in the area.

"Instead of coming up the tile roof area and interfering with the work in that area, we came up with the design of coming off the structural steel on the interior of the tower," he said. "The system staging was secured to the structural steel, and then roof penetrations were made and the standards were extended out through the roof to give us our base design.

"We then worked off roof brackets to complete the staging, creating a platform 10-foot square around the finial by 23-foot high."

### About the Author

Vincent Brennan is the editor of *Scaffold Industry*. Contact him at vince@scaffold.org. SIA

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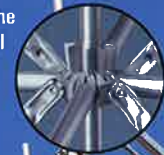
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