



Sailing in speed

*Super crane arrives at
New NY Bridge site*

The first year of permanent construction operations on the New York Thruway Authority's New NY Bridge, which ended in October, saw exceptional progress on the foundations for the replacement of the 60-year-old Tappan Zee Bridge north of New York City.

In the coming weeks and months, however, progress will shift into even higher gear due to contributions of the I Lift NY super crane.

Arriving at the project site on Oct. 6, I Lift NY is 328 ft tall, which is taller than a 30-story building, and can lift up to 1,900 tons, the equivalent of 12 Statues of Liberty. The huge lifting capability of the floating crane is enabling design-build contractor Tappan Zee Constructors LLC (TZC) to pre-fabricate huge sections of the new twin-span bridge at off-site locations, saving both time and money as well as enhancing project safety and quality. I Lift NY is owned by TZC, a joint venture of Fluor, American Bridge, Traylor and Granite, and is officially registered with the U.S. Coast Guard as the Left Coast Lifter.

Shortly, the super crane will begin placing giant modular sections of the new bridge,

which include its massive pile caps, girders and deck segments. These bridge elements—some weighing as much as 1,100 tons—are being barged to the construction site from off-site fabrication facilities and staging areas. Later, I Lift NY will help remove the existing bridge in immense pieces, enabling more rapid deconstruction than if the work was carried out by standard-sized cranes.

New York Gov. Andrew Cuomo, who welcomed the giant crane as it arrived at the New NY Bridge project site in October, observed, "The New NY Bridge project is a symbol of partnership and progress. It is tactile proof that the new New York is here, with a government that works more efficiently and tackles problems more affordably. The I Lift NY super crane will speed up construction time, and it is one of the factors that helped save the state more than \$1 billion compared to early estimates."

I Lift NY's arrival concluded a 6,000-mile journey that included a passage through the Panama Canal. Prior to its debut at the project site, the crane was moored at the Port of New York undergoing a series of modifications for its work on the New NY Bridge. These changes included improvements to its operating systems and careful inspections of every inch of the equipment.



Two of the New NY Bridge's 136 pillars rise out of the river.

One year in

The first year of project construction saw enormous advances. By the end of October, TZC had driven over two-thirds of the project's foundation piles—more than 750 in total—into the riverbed to create solid footholds for the bridge. The largest piles were 6 ft in diameter and almost 300 ft long. The longest were 4-ft-diam. friction piles driven more than 350 ft into the riverbed. Approximately one-third of the piles were required to be friction piles—which receive their vertical support from skin friction between the buried pile and the surrounding soil—since bedrock is up to 700 ft below the riverbed in certain areas across the river.

Following pile driving is the installation of pile caps, which unify the supportive strength of the individual piles at the surface of the river and create strong bases for the new bridge. The massive main-span pile caps are longer than a football field and support the bridge's 419-ft towers. Most of the project's 70 pile caps, however, are for the approach spans and are about the size of a tennis court.

While a handful of pile caps were installed prior to the arrival of the I Lift NY, its presence will greatly accelerate progress. Dozens of pile caps will be lifted into place by the end of the year, with the full complement being installed by summer 2015.

As foundation elements are completed, the focus turns to constructing bridge pillars.

Atop the first installed pile caps, the first set of the new bridge's 136 pillars recently rose from the surface of the river. During the coming months, New Yorkers will see the new bridge's towers take shape, as scores more pillars rise from the water.

Also during the first year of construction, a great deal of work was accomplished at locations distant from the project site. Thirty percent of precast pile caps have been fabricated and work recently began on the structural steel girders. These and other elements of the bridge will be barged to the project and installed by the super crane and more pedestrian-sized lifters.

Progress to date combined with the I Lift NY's extraordinary lifting capability set the stage for even greater advances for the New NY Bridge project in 2015 and completion in 2018. **R&B**



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the state more than \$1 billion.

— *New York Gov. Andrew Cuomo*

Information for this article provided by Tappan Zee Constructors LLC

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