

By Carol Shobrook

# **BETWEEN THE SPANS: MARINE FOUNDATIONS FOR NEW BRIDGE IN BROOKLYN**

Brooklyn, NY



Phase II pile driving at Gerritsen Inlet Bridge.

# JOB STORY



**JT** Cleary recently completed the marine foundations for Phase II of the new bridge over Gerritsen Inlet in Brooklyn, NY. Located in the Gateway National Park Recreation Area, the Gerritsen Inlet Bridge is one of seven bridges on the Shore (“Belt”) Parkway being replaced by the New York City Department of

Transportation (NYCDOT). The final phase of work on the bridge is expected to start by next year.

JT Cleary is teamed with CCA Civil, the general contractor, and is responsible for installing the marine foundations. President & CEO Jim Cleary noted, “The old bridge was built on wooden piles around 1940. The new bridge will improve many safety features for what is now a very busy motorway.”

The marine scope includes the design and excavation of three cofferdams, supply and installation of concrete pilings and concrete sealing for the underwater structures, and installation of timber piles for fender and dolphin systems.

With the reconstruction of this bridge, NYCDOT aims to eliminate substandard conditions and bring it into compliance with current state and federal

standards. These standards require wider lanes, safety shoulders, median barriers, super-elevation of the roadway around curves and realignment of the roadways in order to improve sight distances. NYCDOT anticipates that these improvements will reduce the current accident rate on this section of the Belt Parkway and improve highway drainage.

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**PRESIDENT & CEO JIM CLEARY NOTED, “THE OLD BRIDGE WAS BUILT ON WOODEN PILES AROUND 1940. THE NEW BRIDGE WILL IMPROVE MANY SAFETY FEATURES FOR WHAT IS NOW A VERY BUSY MOTORWAY.” THE MARINE SCOPE INCLUDES THE DESIGN AND EXCAVATION OF THREE COFFERDAMS, SUPPLY AND INSTALLATION OF CONCRETE PILINGS AND CONCRETE SEALING FOR THE UNDERWATER STRUCTURES, AND INSTALLATION OF TIMBER PILES FOR FENDER AND DOLPHIN SYSTEMS.**

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company, the JT Cleary team brought its expertise to bear in handling logistical and weather related conditions. Most of the work has been performed with barge-mounted equipment, staged in an extremely narrow gap of around 55 feet between the spans of the old and new bridges. Accustomed to working on the water during frigid New York winters, the crew successfully completed two concrete placements

during the winter months to keep the project on schedule.

The team also resolved an unusual circumstance, in which the location of the old bridge foundation was not as indicated on the contract drawings. This was overcome by re-designing the cofferdam, in coordination with the general contractor, to fit around the existing bridge foundation. In addition, the foundation piles did not fetch up to the design

**SAFETY IS ALWAYS A PRIORITY, ESPECIALLY IN THE NARROW CONFINES OF THIS WATER-BASED WORK SITE. JT CLEARY'S APPROACH WAS TO ENGINEER THE DANGER OUT OF THE PROJECT, SO THAT EXTRAORDINARY MEASURES WERE NEVER REQUIRED.**

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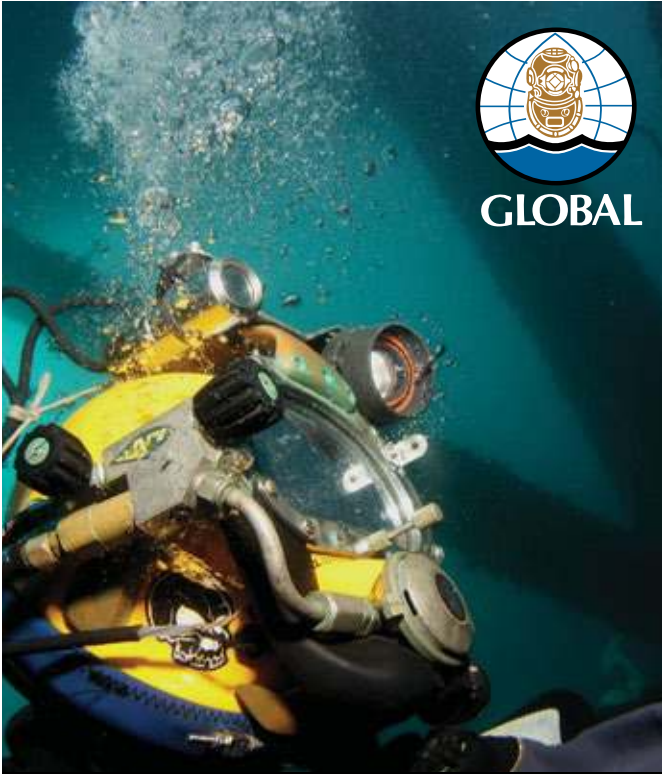
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capacity for the specified tip elevation. To surmount this, the owner added more piles, and JT Cleary once again re-designed the cofferdam, and the project proceeded smoothly and without issue.

Safety is always a priority, especially in the narrow confines of this water-based work site. JT Cleary's approach was to engineer the danger out of the project, so that extraordinary measures were never required. The company deployed its commercial divers inside each cofferdam to level the

base, thereby ensuring a good seal after dewatering. Although some may consider commercial dive operations inherently dangerous, for JT Cleary it was a routine and safe operation. The company adheres to the most conservative interpretation of safety standards for commercial diving.

During the construction of the new bridge, the Belt Parkway has remained open to vehicular traffic. Check out a new video of the pile driving operation underway next to the busy open span at [www.jtcleary.com](http://www.jtcleary.com). ■