



## Case Study

### Creating a Bridge for Progress; Stancor Pumps were Utilized to Assist in the Construction of the New Tappan Zee Bridge

#### Overview

The expression "water under the bridge" describes an inability to change something that has occurred in the past. However, the new NY bridge project—overseeing a \$3.98 billion budget to replace the 3.1-mile Tappan Zee Bridge across the Hudson River couldn't afford to make mistakes when moving the water under the bridge.

Tappan Zee Constructors, LLC (TZC), a consortium of Fluor Enterprises, Inc., American Bridge Company, Granite Construction Northeast, Inc. and Traylor Bros. Inc., was responsible for the design and construction of the project.

The application challenges were larger than merely supporting construction of the twin spans that replace the existing bridge, which was originally built in 1955 and serves more than 138,000 vehicles per day. Extensive measures were also put in place when construction began in late 2013 to protect the environment during the process.

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A custom solution was needed for this high pressure construction job.

#### PROBLEM

- Environmental concerns
- Time and budget restraints
- Required a steady flow of water to maintain project timeliness and structural integrity





## Solution

Stancor P-70-HH Series pumps were selected. These pumps are rated at 30 HP and can pump up to 430 GPM or generate up to 165 psi. The P-70-HH pumps were relied upon to move Hudson River water so the concrete in the main span tower pylons cured properly. Wedge wire screens, which were designed with 5mm openings were added to the pumps intakes to prevent fish, eggs and larvae from being drawn into the pump during this critical operation.

The value-added product was able to simultaneously: run reliably, cooling water 150 feet into the air at a flow rate that would maintain the integrity of the structural concrete. And, protect river life by ensuring the Hudson River water temperature never rose by more than three degrees and fish were not threatened or harmed.

"A project of this size has a unique number of challenges," said Martir Ortez, TZC Field Engineer for the new NY bridge project. "Stancor's willingness to collaborate on all aspects of the pumps—including power supplies, flow rate and head pressure—allowed us to develop a comprehensive set of solutions. Stancor was always there when we needed a recommendation. That is invaluable when you need to stay on time and on budget."

More than 50 pumps were supplied by Stancor to assist in a variety of operations in this complex project. After all, there is a lot to do when you are using hundreds of thousands of cubic yards of concrete and nearly 200 million pounds of steel.

When completed, the new bridge will have the ability to support more lanes, a pedestrian and bicycle path and even a proposed mass-transit system.



## RESULTS

- More than 50 pumps were purchased for various operations in this project
- Pumps ran reliably, with no failures
- Environment was protected



Stancor pumps were positioned to create a water supply line from the Hudson River to cure concrete properly on the bridge foundation. The construction process relied on a steady flow of water to maintain project timelines and structural integrity.

