

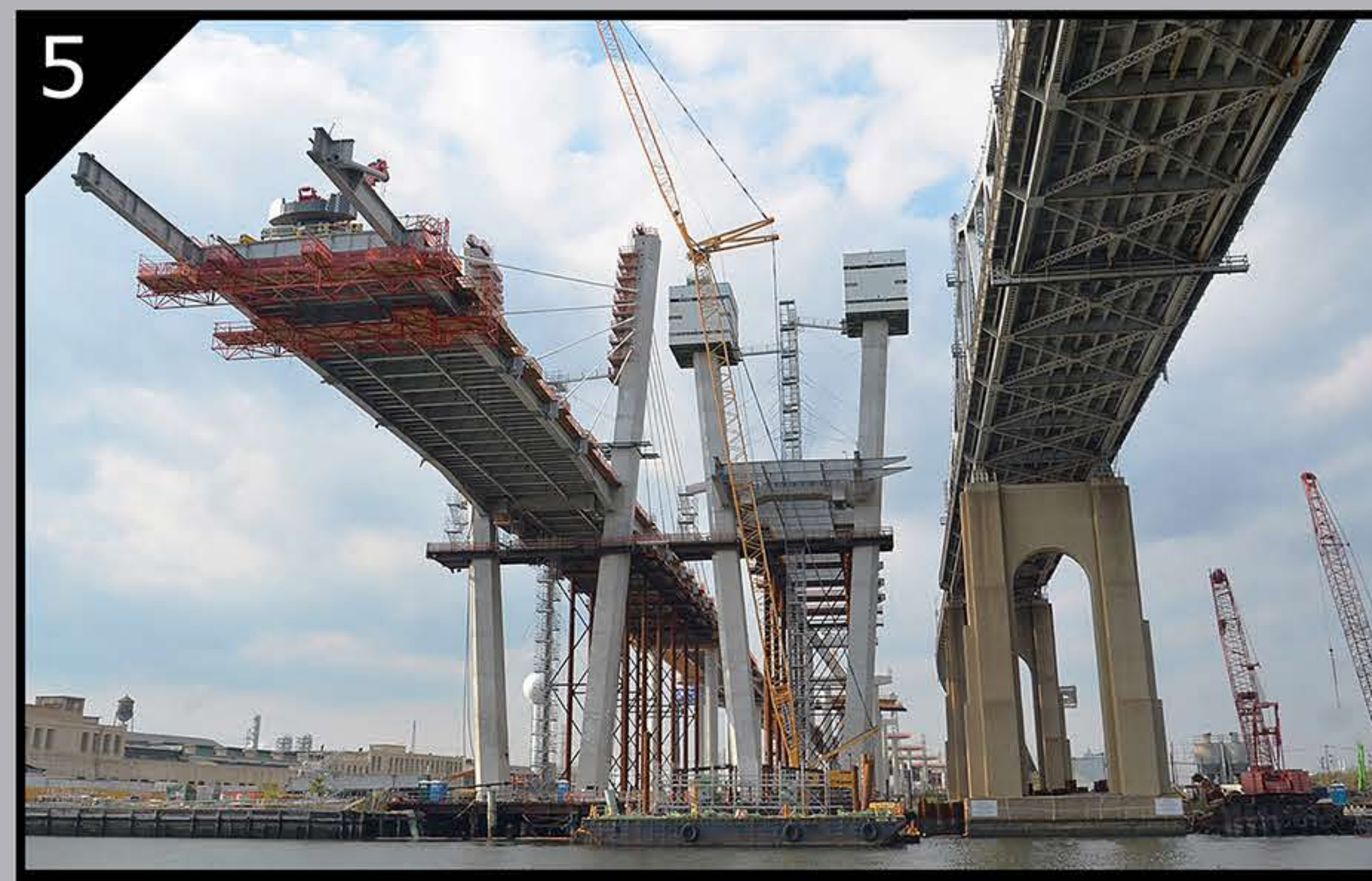
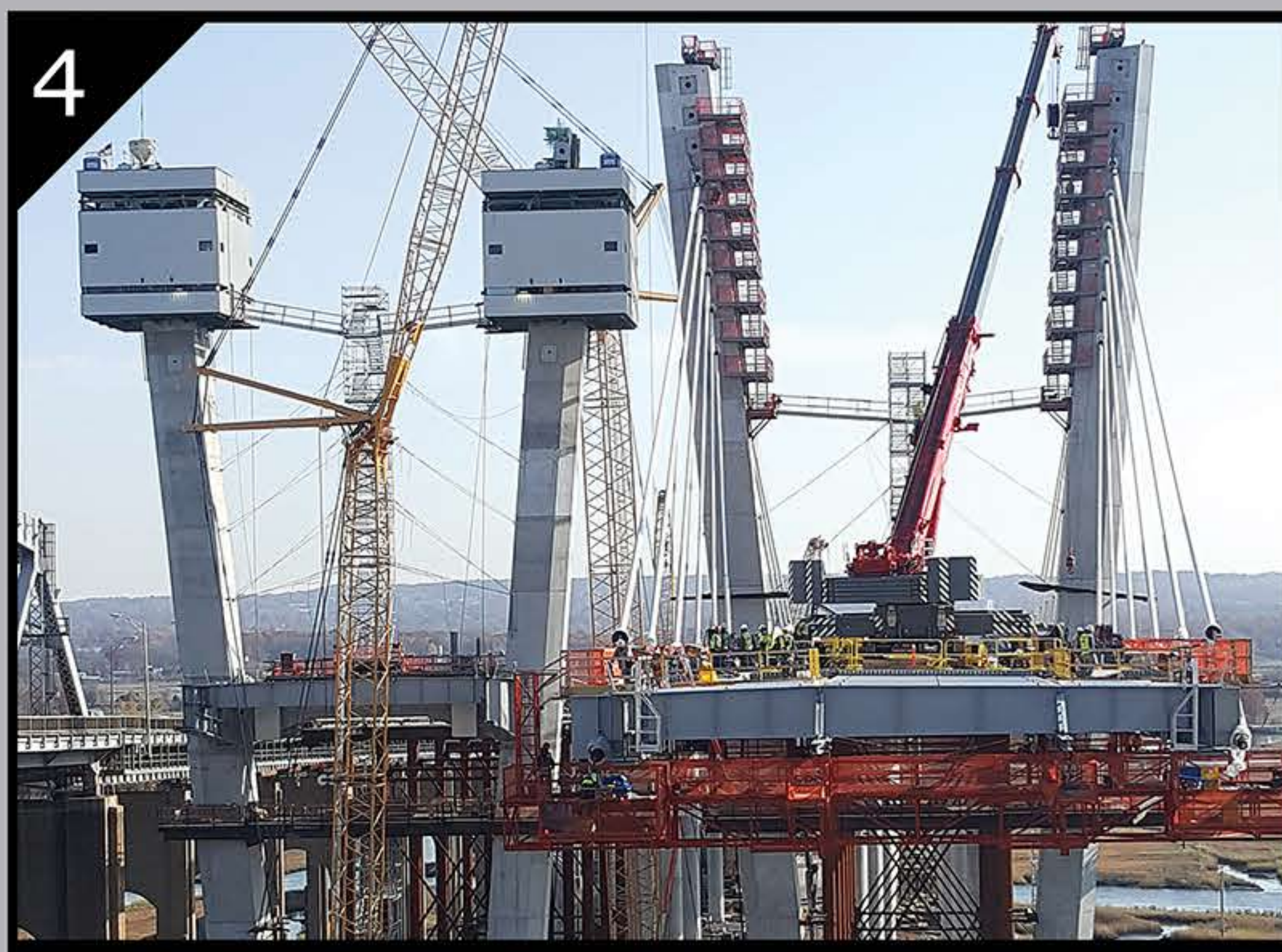
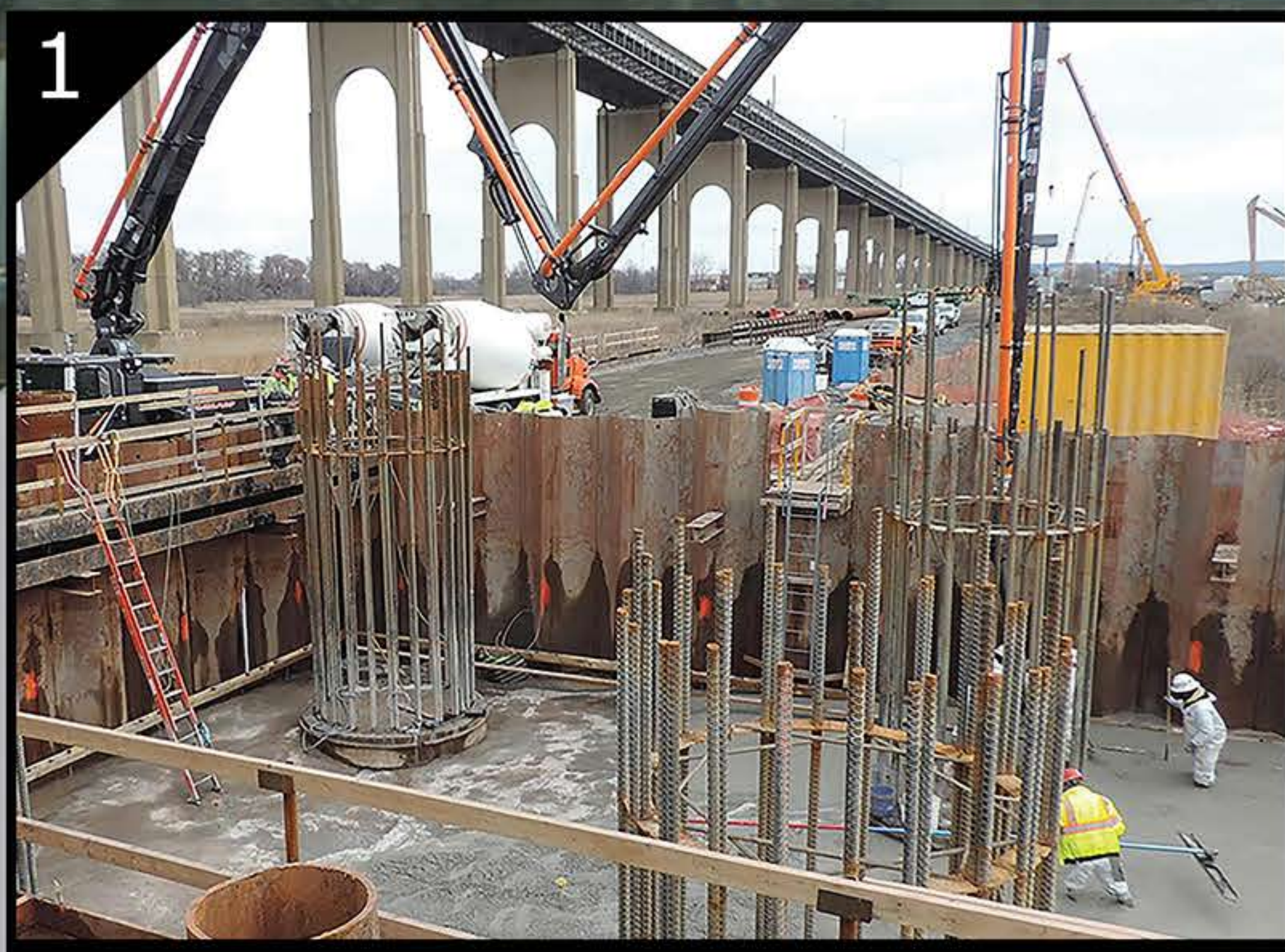
GOETHALS BRIDGE

REPLACEMENT PROJECT

Staten Island, NY • Elizabeth, NJ

To replace the outdated Goethals Bridge which spanned the Arthur Kill between Staten Island, NY and Elizabeth, NJ, the Port Authority of New York and New Jersey (PANYNJ) chose to use the public-private partnership delivery method. As part of the Developer's team, the firm was selected to perform Construction Quality Assurance (QA) and Construction Engineering and Inspection (CEI) Services. The design and working environment brought ambitious challenges to ensure that construction proceeded on schedule, in accordance with the design intentions, and in a minimally disruptive fashion. This involved an intensive and extensive independent testing program for all material that went into the construction, and intensive inspection of construction

activities throughout the process, including staffing fabrication facilities, performing inspections on-site, and making certain that all the QC requirements were met. Document Control procedures were put into place, and more than 170 different controlled inspection (CI) checklists were implemented to make certain that all the requirements for design and construction for each element of the work were fully documented. The entire CEI component of this project was under constant, iterative review and improvement, with the result being the development of new, innovative practices to manage large and complex engineering projects. These practices, having been tested repeatedly, can now be applied to other large and complex projects.



1. Concrete pour for the drilled shaft within the NY tower foundation.
2. Completion of falsework at NJ eastbound back span.
3. Progress in construction of NJ eastbound towers using bird cages.
4. Installation of stay-cable on eastbound span.
5. Progress of cantilever construction of eastbound main span.

Project:  **GOETHALS**
BRIDGE REPLACEMENT PROJECT
Staten Island, NY & Elizabeth, NJ

Owner: **THE PORT AUTHORITY**
OF NEW YORK & NEW JERSEY
Staten Island, NY & Elizabeth, NJ

Client:  **nynjlink**
New York, NY

Entrant:  **KSE**
KS Engineers, P.C. New York, NY