

CASE STUDY

Hudson Yards Development

The First Installation of a Removable Load Distributive Compression Anchor (LDCA) in the Northeastern United States – New York, New York

HISTORY

New York Concrete Corporation (NYCC), the excavation foundation contractor on the Hudson Yards Tower C Project, took on the task of installing a removable strand anchor system. This was the first ever installation of a Removable Load Distributive Compression Anchor (LDCA) in the Northeastern United States.

PROBLEM

A portion of the north SOE wall, approximately 250 feet, ran adjacent to a large operating rail yard where the owner did not want any permanent steel to encroach over their property line due to planned secant wall and caisson installations on the property. This future work was going to be in conflict with the traditional tieback system that was designed for this particular portion of the SOE wall. The conflict would potentially cost the owner additional time and money to cut-out the traditional anchors prior to installing the secant wall and caissons.

SOLUTION

Nucor Skyline was currently supplying NYCC with the steel sheeting for the massive 90,000 sq. ft. cofferdam. Once the need for the removable system arose, Nucor Skyline's Geostructural division got to work and began consulting with NYCC to formulate the LDCA system.

Nucor Skyline supplied 33 sets of 3-strand load distributive compression type removable anchors. These anchors, made up of one single and one double anchor body, would allow the load to be distributed along the bond length.

The anchors, which had already been assembled and coiled, arrived on pallets and



were ready for installation. Once installed and grouted, the anchors were stressed using Nucor Skyline's Smart Jack system. Even though there are variances in the unbonded lengths, this system uniformly distributes the stressing load to the grout bodies.

Once the temporary anchors were no longer necessary, the strands were able to be removed quickly and easily. They just needed to be rotated to release the wedge in the anchor body and then pulled through the PE sheathing; which is typically done by hand.

This cost-effective solution allowed the contractor to easily install, stress and remove the steel strands. As a result, the owner avoided having to remove tie-back steel on the secant wall side of the sheeting.

PROJECT PARTNERSOwner

Related Companies – New York, NY

Construction Manager

Tutor Perini Corporation – New York, NY

Foundation/Excavation Contractor

New York Concrete Corporation – Staten Island, NY

SOE Engineer

FNA Associates – New York, NY

PRODUCT

Removable Strand Anchors