

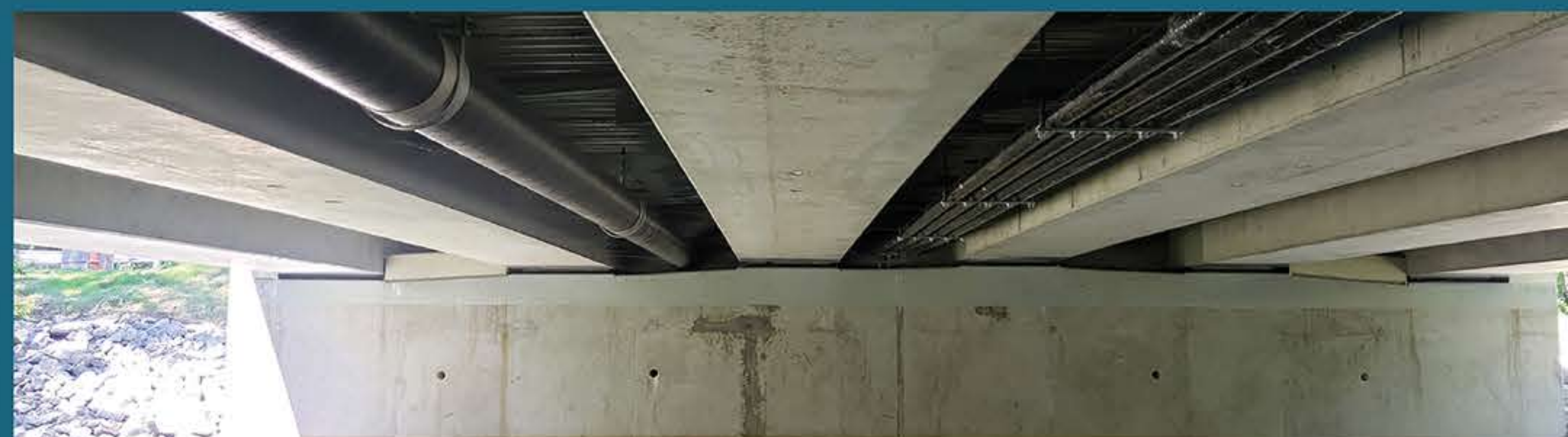
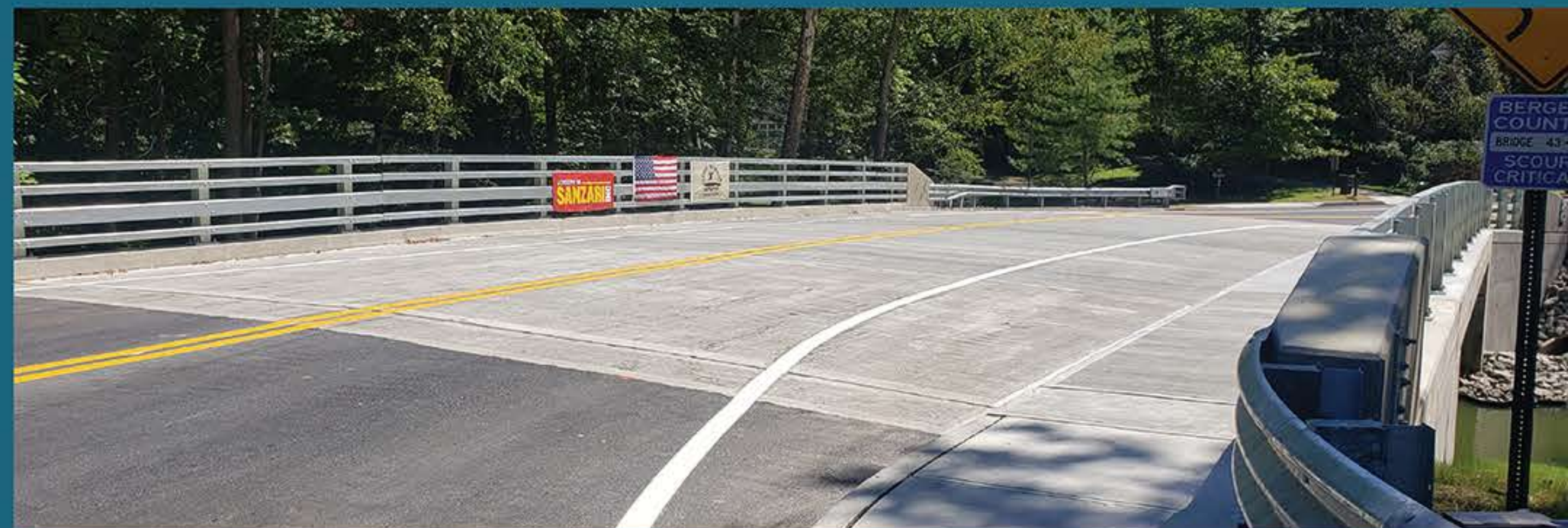
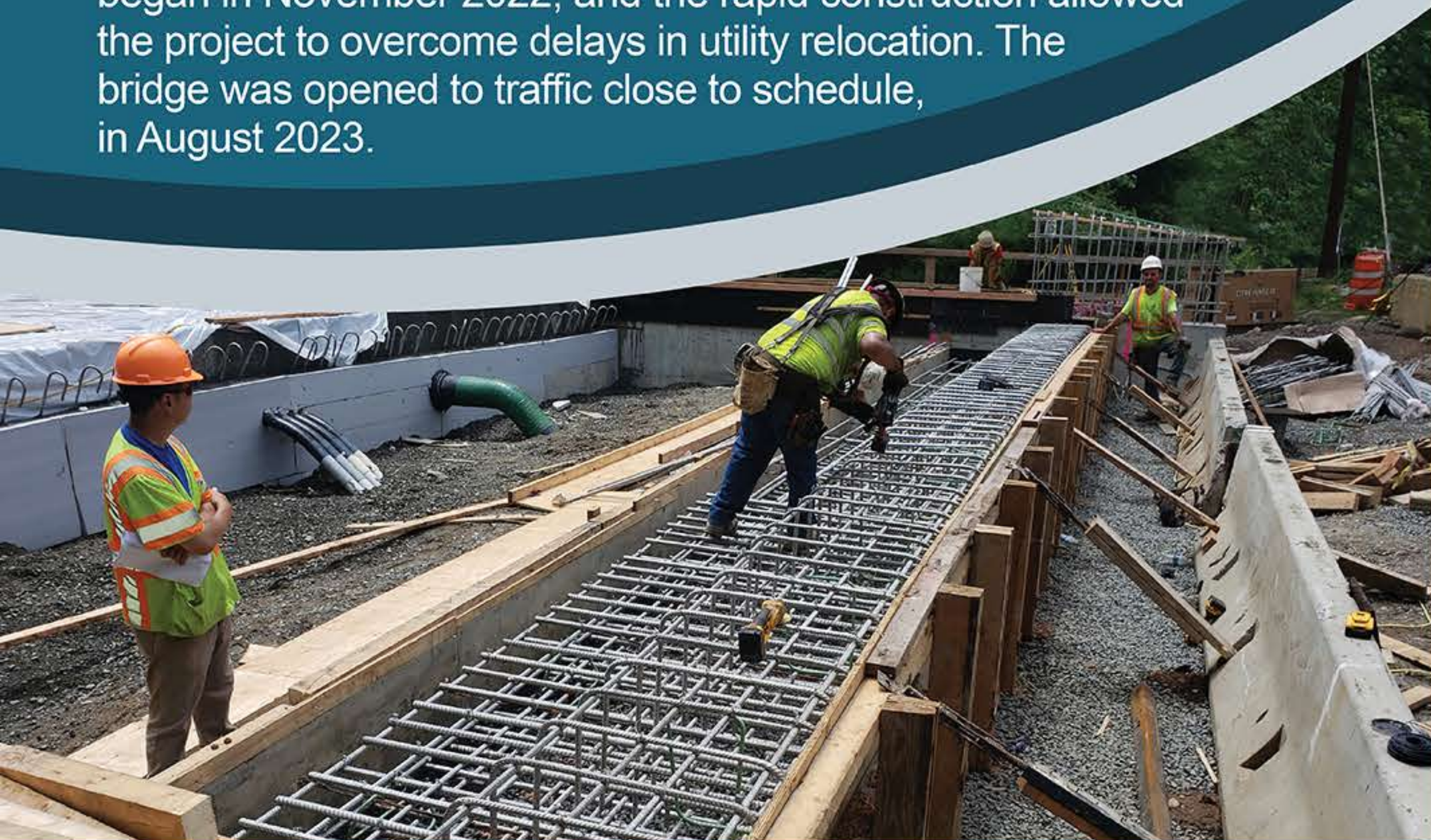
KS Engineers, P.C. (KSE) was retained as the Prime Consultant to Bergen County for the preliminary and final design services for the replacement of Old Tappan Road Bridge (No. 020043A), which carries Old Tappan Road (CR 116) over the Hackensack River. KSE was responsible for providing bridge and roadway design, geotechnical engineering, hydraulic engineering, utility design/relocation, survey and base mapping, right-of-way engineering, and agency permitting, in addition to overseeing subconsultant work for environmental permitting support, wetland delineation, and historical/archaeological evaluation.

The existing bridge was a single-span structure originally built in 1900 and partially reconstructed in 1972 with an adjacent prestressed concrete voided slab beam superstructure supported on existing concrete and stone masonry abutments. The bridge was listed as structurally deficient due to the poor condition of both the superstructure and substructure.

KSE developed concepts for design alternatives to replace the existing structurally deficient bridge. After approval of the preferred alternative by the County, final plans were submitted which consisted of a jointless, 55-foot, single-span, spread prestressed concrete box beam superstructure on semi-integral abutments. Key design issues included environmental permitting, detouring vehicular and pedestrian access during construction, and relocation of the gas main and telephone utility ducts onto the new bridge.

A new, widened sidewalk provides long-term safety for pedestrians. The construction cost was approximately \$4.9 million. Construction began in November 2022, and the rapid construction allowed the project to overcome delays in utility relocation. The bridge was opened to traffic close to schedule, in August 2023.

# Replacement of OLD TAPPAN ROAD BRIDGE Over the HACKENSACK RIVER



Project:  
Replacement of  
Old Tappan Road Bridge over the  
Hackensack River  
Borough of Old Tappan/  
Township of River Vale, NJ

Client/Owner:



County of Bergen, NJ

Entrant:

**KSE**  
KS Engineers, P.C.  
Newark, NJ

**ACEC** New Jersey  
AMERICAN COUNCIL OF ENGINEERING COMPANIES

**ACEC** ENGINEERING  
EXCELLENCE  
AWARDS