

# Washington Pedestrian Bridge

PROVIDENCE / EAST PROVIDENCE, RHODE ISLAND



This project is part of the rehabilitation of the 1,660-foot historic concrete arch viaduct that will convert the former vehicular bridge into a plaza style multi-use recreation path linking the East Bay/West Bay. Steere Engineering, as consultant for Cardi Corporation, provided the designs behind the contractor's means & methods.



This project included the design of multiple spans of temporary access bridges, associated erection procedures, and temporary abutments providing the contractor much simpler access, as opposed to barge-only access. Cardi sought to utilize self-owned steel plate girders to construct the temporary access bridges. Steere analyzed these girders, designed multiple field splices, and prepared drawings and supporting calculations per current AASHTO codes, which allowed their use. The temporary bridges were designed to accommodate heavy construction equipment as well as crane travel used to supply materials to the bridge deck above.

In addition, Steere analyzed the existing +75-year-old viaduct to accommodate both track and axle load crane travel, using finite element analysis to aid in the erection of these temporary bridges. The erection of these bridges was conducted using a phased procedure. Span 1 was erected with a crane located on top of the existing bridge in tandem with a secondary crane below at the approach. Span 2 was then erected with a crane on top and a secondary crane down below placed on the Span 1 access bridge. Steere also provided structural engineering services for demolition/shielding procedures, jacking and shoring procedures for bearing replacements, deck pouring procedures, and formwork design.

This project, completed in 2013, was part of the \$21.2 million effort to reconstruct the Washington Bridge off-ramp onto Veterans Memorial Parkway and then create the bikeway, linear park, walking path and scenic overlooks that are scheduled to be completed by summer 2014.

**Owner:** Rhode Island Department of Transportation  
**Reference:** Robert Ferrara, PE, Resident Engineer  
**Phone:** 401.273.1007

**Design Completion:** 2012-2013  
**Construction Completion:** N/A  
**Project Cost:** \$21.2 Million