

**Project:** Costello Parkway (CS55) over CSX Railroad  
**Location:** Town of Manlius, Onondaga County, New York  
**Client:** Onondaga County DOT  
**Cost:** \$1.4M  
**Year:** 2012  
**Work Performed:**

- Design Report Preparation (Phases I-IV)
- Survey and Mapping
- Substructure Rehabilitation
- Bridge Deck Replacement
- Structural Steel Replacement
- Staged WZTC (Work Zone Traffic Control)
- Highway Approach Modifications
- Field Change Orders
- Construction Inspection

The Costello Parkway Bridge was constructed in 1957 to cross the far eastern end of the CSX rail yard. The bridge has three simple spans—each composed of six steel girders with a concrete deck—and has a curb-to-curb width measuring 36 feet (two 12-foot travel lanes and two 6-foot shoulders) with an overall width of 41.33 feet.



To repair the bridge's deficient concrete substructure, bearings, deck, deck joints and structural steel, Prudent Engineering was retained to perform a full rehabilitation. The resulting project successfully addressed these structural defects, providing a safe crossing over the CSK Railroad.

The project was progressed by Onondaga County in coordination with the New York State Department of Transportation (NYSDOT) and the Federal Highway Administration (FHWA). The project was designated as a Class II, Categorical Exclusion with Documentation in

accordance with the FHWA's regulations 23 CFR 771.117 (d), with Onondaga County serving as lead agency for NEPA.



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Prudent's scope of work encompassed developing the design plans for the rehabilitation of the deteriorated substructure elements and replacement of the bearings, end diaphragms, pedestals, deck joints, and bridge deck removal. Prudent provided Construction Inspection services for the following tasks: cleaning and painting of structural steel framing; removal and replacement of deteriorated concrete on the substructure elements with Class A concrete; and the cleaning and repainting of steel features using a Class A containment system. Prudent also oversaw the replacement of the outmoded bearings with elastomeric-type bearings; removal and replacement of end diaphragms, connection plates, and bolts with new diaphragms and connection elements; and, lastly, the installation of a new 9.5-inch bridge deck.

Prudent completed this scope of work utilizing a staged construction approach due to the bridge's multi-girder configuration. An on-site detour consisting of a temporary single lane with signalization was implemented, which required two construction stages that stopped traffic from one direction while opposing traffic crossed the bridge. Prudent identified utilities and promptly notified the associated owners of the project.

The project also involved the elimination of a pier joint and the installation of new armorless deck joints. Minor reconstruction of the roadway sections of both approaches were necessary and required minimal vertical alignment changes.