Reconstructed: Strawberry Mansion Bridge, Philadelphia

The original Strawberry Mansion Bridge was built in 1897 by the Fairmount Park Transportation Company, and spans the Schuylkill River in Philadelphia. The newly rehabilitated, 1,250'-long bridge consists of six deck-truss approach spans and four steel-arch-truss river spans. The capacity of the structure was increased to HS-20 live load by using a light-weight deck and strengthening the truss members. Severe section losses to truss members necessitated complex and sequenced strengthening while the bridge was open to traffic. Replacement of the arch trusses' vertical and horizontal gusset plates at the deteriorated connections required temporary support systems for unloading and loading the connections. At abandoned trolley-track locations, a 27'-wide by 800'-long promenade was employed. The promenade is surrounded with original and replicated railings, trolley catenary portals, ornamental light poles and fixtures. Also included in the project was the erection of 14 historic signs along an 8½-mile route that passes beneath the structure.

OWNER
City of Philadelphia, Department of Streets, Bridge Division

SPONSOR
Philadelphia Department of Transportation

GENERAL CONTRACTOR
IA Construction Corp., Concordville, PA

ARCHITECT
Susan Maxwell Architects, Philadelphia

STRUCTURAL ENGINEER
Lichtenstein Consulting Engineers, Inc., Langhorne, PA

ENGINEERING SOFTWARE
STAADPro (STAAD-III)

Medium Span: Fort Meigs Memorial Bridge, Maumee & Perrysburg, OH

The Ohio Department of Transportation designed the new Fort Meigs Memorial Bridge, crossing the Maumee River in northwestern Ohio, to replace an existing bridge almost 75 years old. The bridge connects the City of Maumee in Lucas County and the City of Perrysburg in Wood County, and carries U.S. Route 20 and State Route 25 traffic across the river

The previous structure was a seven-span, filled-spandrel concrete-arch bridge constructed in 1927-1928. The bridge had deteriorated, resulting in crumbling concrete along both sides and closing the sidewalk on the upstream side. The two-lane bridge was functionally deficient to carry the current traffic volume of 29,000 vehicles per day. There were sharp curves on the roadway approaches at both ends of the bridge. The new $9.2-million replacement bridge is a seven-span, variable-depth, haunched, horizontally curved steel-girder structure with a composite, reinforced-concrete deck and substructure. The bridge is located on a sweeping five-degree, horizontally curved alignment to eliminate the sharp curves on each end.

OWNER
Ohio Department of Transportation

GENERAL CONTRACTOR
Mosser Construction, Inc., Fremont, OH

STRUCTURAL ENGINEER
Adache Ciuni Lynn Associates, Inc., Cleveland

ENGINEERING SOFTWARE
C-Bridge

STEEL FABRICATOR
PDM Bridge, Eau Claire, WI (AISC member)

STEEL DETAILER
Tensor Engineering, Indian Harbor Beach, FL (AISC member, NISD member)