



2017 Cannelville Road Bridge

Description

Meta Fields

Project Summary : SPS deck on press-brake-formed steel tub girder Modular Decked Beams

Project Location : Cannelville Road over Riders Run Creek in the village of Roseville

Mobility Impact Time : The superstructure was erected in 20 minutes and bolted together in one day. The bridge was closed a total of 26 days. The impact to the neighboring community was minimal. Fire, EMS, and school systems saved many dollars not having extended use of the 8-mile detour.

Impact Category : Tier 4 (within 1 month)

Dimensions : 52.5 ft long and 24 ft wide single span

Average Daily Traffic At Time Of Construction : 639

Traffic Management : extended use of the 8-mile detour

Existing Bridge Description : The existing 38-ft-long and 22-ft-wide bridge was deteriorated and needed replacement.

Replacement Or New Bridge : Each of the two modular decked beam units weighed 31 tons and had two galvanized Press-Brake-Formed Steel Tub Girders with spray metallized Sandwich Plate System (SPS) deck panels, complete with bridge railing, for a projected 100-year service life. Advantages of this innovative superstructure include prefabrication and weight savings that allowed the rapid onsite installation, and reduced section depth due to the thin SPS decks and structurally efficient girder cross section.

Construction Method : The bridge roadway was closed and all traffic was re-routed to an 8-mile-long detour. Standard construction methods were used for the substructure (cast-in-place concrete footer and abutments). The superstructure was prefabricated offsite and delivered to the jobsite on two flatbed trailers. The half-width modules were erected in 20 minutes and bolted together in one day, followed by application of the waterproof membrane and asphalt overlay. After setting the superstructure, the road was opened to traffic less than 10 days later. The bridge was replaced in a total of 26 days, ahead of the 30-day maximum allowed closure.

Stakeholder Feedback : Because this structure was a "one-off" structure, the design was cumbersome since there were no standard ODOT drawings to reference.

High Performance Material : SPS deck panels; press-brake-formed steel tub girders

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P.E., P.S. County Engineer davis.mceo@rrhio.com 740-819-0629 Fabricator of Modular Decked Beams: US Bridge Contractor: Art Rogyvin, Owner US Bridge art@usbridge.com 740-819-0053

Incentive Program : 2016 AID Demo (Accelerated Innovation Deployment Demonstration) grant

Additional Information : [September 2017 ABC-UTC Monthly Webinar](#) ABC-UTC
Website/Resources/Implemented Advanced Technologies: [Sandwich Plate System \(SPS\)](#)

Contract Plans : 1

Year Abc Built : 2017

State : OH

Owner : County

Location : Rural

Spans : One-span

Beam Material : Steel

Max Span Length Ft : 52.5

Total Bridge Length Ft : 52.5

Construction Equipment : Conventional

State Id # : Mus-C0007-00.01

Nbi # : SFN - 6036083

Latitude : 39.8044434

Longitude : -82.0680542

Prefabricated Bridge Elements : orthotropic deck - SPS (Sandwich Plate System), MDhBs (Modular Hybrid Decked steel Beam - SPS deck on press-brake-formed tub girders)

Abc Construction Equipment : conventional

