February Meeting

Thursday, February 16, 2017

The Association for Bridge Construction and Design in conjunction with ASCE & ACEC invites you to attend our monthly dinner on February 16th. The meeting will consist of a buffet dinner and a presentation on the Rehabilitation of the Willis Avenue Bridge. The meeting will be held at Classics V in Amherst, NY. All members, non-members and students are invited to attend.

The Willis Avenue Bridge Rehabilitation

Keeping Freight Moving Over and Under the Bridge

1 PDH Credit (pending)

Highlights

•Speaker: Paul Mongovi, PE
Bergmann Associates

•Joint Meeting with ASCE & ACEC

•Cash Bar from 5:30 PM – 6:30 PM

•Dinner Begins at 6:30 PM

•Location:
Classics V
2425 Niagara Falls Blvd.
Amherst, NY 14228

RSVP to

Barb Golda

Email: bgolda@bergmannpc.com

Reservation Deadline:

Monday, February 13th, 2017

Cost

Members:	$30.00
Non-Members	$35.00
Students:	$15.00
(may pay at door)	

2017 ABCD MONTHLY MEETING

PRESENTATION ABSTRACT

Title: *"The Willis Avenue Bridge Rehabilitation – Keeping Freight Moving Over and Under the Bridge"*

Presenters: Mr. Paul J. Mongiovi, PE
Project Engineer, Bergmann Associates

Abstract:

Located in the Town of Geddes in the northwest corner of the City of Syracuse, the Onondaga County Department of Transportation's $4.7M major rehabilitation of the Willis Avenue Bridge consists of the superstructure replacement of a five span, 538 ft. four-girder bridge; It was progressed under NYSDOT's Locally-Administered, Federal-Aid Bridge program. The project was unique in that it required a higher than normal amount of pre-planning, engineering and coordination in order to maintain 24/7 freight movements both above and below the bridge and to minimize disruption to the traveling public during the extensive two season project.

The bridge project is adjacent to a busy industrial complex with driveways located immediately adjacent to both bridge approaches. There is also an at-grade industrial track crossing on the south approach. With the surrounding local roads featuring restrictive geometry and vertical clearances, the Willis Avenue Bridge offers the only route to the nearby interstate system for the more than 700 trucks (most of which are tractor trailers) that utilize the bridge on a daily basis. Additionally, the bridge spans over six active railroad tracks which carry more than 65 freight and passenger trains daily for CSX Railroad, Amtrak, a short line railroad and a cement plant.

This presentation will review the decision making process regarding work zone traffic control alternatives, the rationale for ultimately selecting staged bridge construction, and the design and construction challenges associated with implementing this work zone method including:

- Development of a bridge and approach staging geometry that balances construction access and work area with ensuring adequate lane widths, truck turning movements and sight distances.

- Assuring adequate girder stability of the two-girder system in each stage as well as temporary shoring of the slender hammer head piers.

- Design and layout of the 1,100 ft. long, multi-phased alternating one-way traffic signal system with emergency pre-emption and interconnection to the at-grade railroad crossing and the Synchro modeling efforts to confirm anticipated queue lengths and delays.

- Public outreach with the affected businesses, property owners, emergency service providers and the railroad.

The site itself also posed several constructability issues including: a narrow existing ROW, privately owned lands below (CSX) and adjacent to the bridge (large out of state corporations), multiple aerial and subsurface utilities, restrictive vertical track clearances, piers in close proximity to the tracks and environmental concerns. It was necessary during the design phase to develop a conceptual plan for contractor access routes, staging areas, pier shoring and erection/demolition schemes (including crane sizing and placements) in order to lay out and secure the temporary easements and perform the necessary advance coordination with CSX Railroad. The presentation will discuss and compare the development of these conceptual plans with the actual methods employed by the contractor and will conclude with a brief slideshow overview of the completed rehabilitation work.

Presented By:

Paul J. Mongiovi, PE

Mr. Mongiovi is a Project Engineer in the Bridge Division of the Bergmann Associates' Transportation Group in Rochester, NY. Mr. Mongiovi has 7 years of experience with structural inspections, design and construction administration for a wide variety of highway, rail, and pedestrian bridges, inland waterway structures and the design of temporary contractor methods for jacking, shoring and erection. He also has served as an owner's representative for CSX for the review and inspection of over two dozen public bridge and highway projects in NY and surrounding states. Mr. Mongiovi received his bachelor's and master's degrees from the University of Buffalo, is a member of the WNY Chapter of ABCD and has SPRAT Level 1 rope climbing inspection certification. His role on the Willis Avenue Rehabilitation Project was the lead bridge engineer.

Presenter Contact Information:

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