

Reconstruction of Downer Place Bridges

by Robert Davies, HR Green Inc.



New precast, prestressed concrete deck beam bridge over the East Branch Bridge, as constructed in 2012.
All photos: HR Green Inc.

Two bridges were replaced recently over the east and west branches of the Fox River in downtown Aurora, Ill., the state's second largest city. The original bridges were three-span, filled spandrel arches constructed in 1909 of cast-in-place concrete. The bridges connect historic Stolp Island to the rest of Aurora, and were listed on the National Register of Historic Places.

Historic preservation criteria mandated that the completed appearance be similar to

that of the original construction including arches, concrete railing, and lighting (as indicated on photographs from archives). To replicate a historic appearance with modern techniques, three spans of precast, prestressed concrete deck beams, precast concrete fascias in the shape of the original arches, precast concrete outlooks at each pier (also in the shape of the original outlooks), and precast concrete railings were specified. Period lighting (again based on

archive photographs) was also installed. The original piers and abutments were removed to the waterline and reconstructed with cast-in-place concrete to the bearing elevations for the precast concrete elements.

Design was complicated by extensive utility conflicts, lack of drawings for the existing bridges, and the abutments being integral with historic building foundations dating to the 1840s. The project was let for bid in September of 2011 by the Illinois Department of Transportation. Seven bids ranging from \$6.8 million to \$8.5 million were received. The contract was awarded on November 18, 2011. The city of Aurora held a grand re-opening and ribbon cutting ceremony for the new bridges on December 12, 2012.

While the schedule for this high-profile project caused initial concerns among city officials and business owners, the use of precast concrete architectural and structural elements and dry weather, allowed the contractor to meet an aggressive, one-year construction schedule. 

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West Branch Bridge, constructed in 2012.

