



Delta Engineers, Architects, & Land Surveyors, P.C. Delta Assists NYSDOT with Innovative Precast Bridge Deck System



Route 23 over Otego Creek Bridge Replacement Project

We are a seamless extension of our clients' organizations

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Delta Engineers, Architects, & Land Surveyors, P.C. (Delta) recently partnered with NYSDOT on a bridge replacement project in Oneonta, NY. The bridge design for this project incorporated a precast concrete panel system as the primary structural component of the deck. Ultra high performance concrete (UHPC) grout was used between the precast panels (both transversely and longitudinally) to “tie” the deck panels together. A thin concrete overlay was then utilized to form the final riding surface. The design of the precast panel system was complicated by an unavoidable sag vertical curve and a cross slope transition on the bridge.

Challenges with the use of this type of system included determining the proper panel spacing / grout channel configuration, development of the NYSDOT UHPC grout specification, and confinement/adjustment of the panels as they were fit together. The precast panel / grouted joint system underwent advance testing prior to panel fabrication to help familiarize workers with this new technology and iron out any problems in advance of actual construction.

This bridge deck system is one of the first of its kind utilized in New York, and information learned from this project will be useful in assessing the future applications of this type of deck system.

This bridge was recently opened and overall project completion is targeted for later this fall.

If you would like to know more about Delta’s transportation capabilities, please contact me at (607) 231-6621 or via email at jmcduffee@deltaengineers.com.

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