

## PROJECT DESCRIPTION

### *South Work Street Bridge Replacement*

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**Location:**  
Falconer, New York

**Client:**  
TVGA Consultants for  
Chautauqua County  
DPW

**Client Contact:**  
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#### ***Driving Steel Piles for Pier Foundation***

McMahon & Mann Consulting Engineers, P.C. (MMCE) served as the geotechnical engineering consultant to TVGA Consultants for the design and construction of the replacement of the South Work Street Bridge and bridge approaches over the Western New York Railroad in Falconer, New York.

MMCE used two phases of subsurface explorations. The first phase involved conventional test borings for the new bridge foundations and approach embankment widening. MMCE analyzed the data from the first phase and recommended friction piles to support the replacement bridge. The second subsurface exploration phase consisted of Cone Penetration Tests (CPT) to measure the strength of the sand and gravel deposit underlying the site with depth. MMCE used these data to develop recommendations for the friction pile capacity and lengths.

During construction, MMCE estimated the pile driving criteria with the Wave Equation Analysis of Piles program, monitored the pile driving effort and measured the capacity of selected piles with a dynamic pile driving analyzer.