

PROJECT DESCRIPTION

Danville Underpass



Location:
Danville, Pennsylvania

Client:
G.A. & F.C. Wagman, Inc.
for the Pennsylvania Dept. of
Transportation

Client Contact:
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The Pennsylvania Department of Transportation (PennDOT) designed a new alignment of SR 54 that extends from Riverdale, across the Susquehanna River and through the historic section of Danville in Central Pennsylvania. The project included a new bridge over the Susquehanna River and the reconstruction of an old, narrow street, Factory Street, in Danville to remove the grade crossing with Market Street. The Factory Street reconstruction required an excavation about 600 feet long and extending to about 35 feet deep.

Historic Victorian mansions line the underpass route and some are located within 4 feet from the edge of the excavation. PennDOT was concerned that lateral movement of the excavation shoring would result in damage to the mansions and specified strict guidelines for controlling ground movements associated with the excavation.

MMCE designed a shoring wall for the project using the deep soil mixing technique. This was one of the first applications of deep soil mixing for this purpose in the country. This technique was selected because it would produce a stiff shoring wall and would eliminate the raveling of soil often associated with soldier piles and lagging walls and would not produce ground vibrations associated with sheet pile installation.

Geo-Con, a specialty subcontractor, used a large crane with special soil mixing devices to mix soil along the sheeting alignment with cement grout and insert steel piles into the soil-cement mixture. The walls were braced with internal struts and wales.

The walls were instrumented and the data showed that movements were very small. No damage to the mansions was reported.