

## PROJECT DESCRIPTION

### *Interstate Route 695 Retaining Wall RW8 Redesign*



**Location:**  
Baltimore,  
Maryland

**Client:**  
Dick Corporation

**Client Contact:**  
Mr. Brian Contino,  
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### ***The Nearly Completed Retaining Wall***

The Maryland State Highway Authority (SHA) engaged Dick Corporation to widen Interstate Route 695 in Baltimore. The project included construction of a retaining wall along the shoulder of the highway. The original design showed a concrete wall built using the top down method. This required Dick Corporation to excavate holes with a caisson rig and install steel piles in the holes before excavating for the concrete panels, which fit between the piles. Boulders imbedded in the native soil prevented Dick Corporation from advancing the holes for the piles.

Dick Corporation engaged McMahon & Mann Consulting Engineers, P.C. (MMCE) to design an alternate to the original design and submit it the SHA for approval. MMCE studied the ground conditions exposed at the site and the boring data and concluded that the ground had sufficient strength to allow a near-vertical excavation approximately 28 feet deep to remain stable long enough to construct a conventional gravity concrete wall. The 18-foot high wall had 4-foot thick base, a shear key and a drainage system behind it. MMCE submitted the design to SHA, which approved it.

During construction, MMCE regularly observed the condition of the earthen slope behind the wall for signs of movement and reviewed data from monitoring devices installed to detect ground movements.