This project is a 1,573-foot long, permanent, value engineering, sheetpile retaining wall system to accommodate embankment widening of the Pennsylvania Turnpike from four to six lanes (including widening of the center median). It consists of Z-shaped, steel sheetpiles comprising the wall face which are restrained by similarly-shaped sheetpiles serving as vertically-planar, continuous tiebacks, i.e., fins attached to the wall face via three way connectors which provide resistance to lateral loading acting on the wall system.

Between the slope of the existing embankment and the wall face up to the top of the cradle sheets is cementitious backfill for pre-stressing the wall system when fluid – and when set, supporting the pipe/utility cradle. Basically, this wall system consists of a one-stage rather than two-stage construction process, i.e., the installation of interconnected, sheetpile elements effectively serving as their own temporary shoring – as compared to other types of construction including MSE wall, T-wall, or reinforced concrete cantilever wall – which would require the installation of temporary shoring to support the adjacent highway prior to the beginning of wall construction.