FEATURED PROJECT

River Wall Design, Pittsburgh, PA
Expansion of North End Facilities
Woods Run Sewerage Treatment Plant
Allegheny County Sanitary Authority (ALCOSAN)

Overview: AWK designed an approximately 1,200-foot long extension to the existing river wall Along the shore of the Ohio River at the Allegheny County Sanitary Authority's (ALCOSAN) Woods Run plant site. The river wall will consist of a composite steel sheet pile system utilizing a circular pipe king pile and a steel sheet lagging type of construction with cantilever and tied back anchor design sections. AWK reviewed existing geotechnical reports for the site; selected appropriate soil and rock parameters; evaluated the impact of the loadings from the proposed facilities and the Ohio River on the internal and external stability of the new wall; designed the internal wall bracing and tie back rock anchors for the wall; and designed the pin connection below the top of bedrock/bottom of king pile interface. AWK coordinated the development of a three-dimensional design model utilizing Revit to complete the structural design. AWK also participated in the development of the instrumentation plan for monitoring the movement of the new wall during construction.

Services: AWK, as a sub-consultant to HDR, Inc., was responsible for all deliverables including preparation of the contract drawings (utilizing Bentley MicroStation 3D); developing the river wall specifications (utilizing CSI Specifications, Master Format); and providing the design analyses calculations (utilizing PY Wall software) to construct the extension of the existing river wall for the expansion of the north end of the plant. The new wall was used to create additional area along the shore of the Ohio River in order to construct the two new final settling tanks and a new river outfall necessary for the plant expansion.