



Dugway West Interceptor Relief Sewer (DWIRS)

LOCATION: Cleveland, Ohio

OWNER: Northeast Ohio Regional Sewer District

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ARCHITECT OR ENGINEER: AECOM

ARCHITECT/ENGINEER CONTACT: Steven Bentron, Project Engineer
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PROJECT PROFILE

On October 3, 2013, the Northeast Ohio Regional Sewer District awarded the \$57,479,355 Dugway West Interceptor Relief Sewer (DWIRS) project to Walsh/Super Excavators, JV. The DWIRS project is part of a network of sewers and tunnels being constructed to drastically reduce combined sewer overflows. In summary, the project includes:

SEI's focused on the microtunneling work, which consisted of 7,000 LF of 72-inch RCP relief sewer, mining through shale rock of approximately 4,000 LF of 48-inch RCP sewer. In total there were 17 separate drives of varying lengths with the longest being at 1079 LF. Depths ranged from 25-32 feet with the deepest drive at 42 feet. Nine launch shafts and 11 receiving pits were constructed - one launch shaft and one receiving pit were eliminated from the original project design through implementation of a VECP.

SEI initiated a VECP to consolidate three very short drives into one longer curved tunnel. Together these three relatively short tunnel runs made up about 670 LF. SEI realized these three straight runs could be incorporated into one longer curved drive design which would greatly reduce the cost and time associated with shaft construction, setup/breakdown, and moving equipment and crews around. All of this could be accomplished through elimination of one jacking shaft and one receiving shaft.

Joining an elite group of North American microtunneling contractors who have accomplished this feat, SEI completed the approximate 700 LF of 72-inch curved drive during the summer of 2015. It was the first curved microtunnel completed in the Mid-West region, and the 4th such milestone using conventional microtunneling equipment completed to date in the U.S.

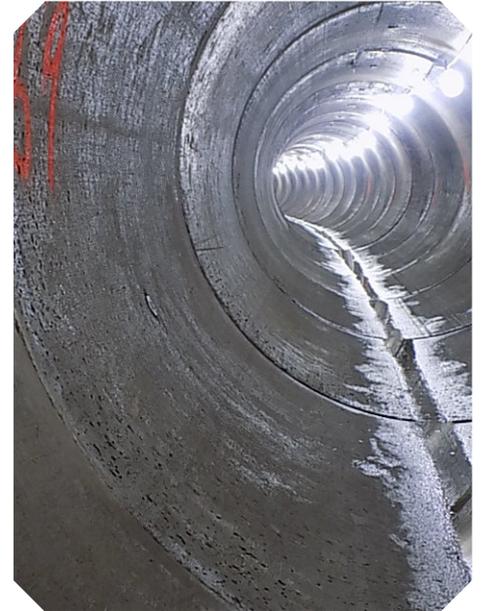


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Because of the project specific soil conditions and elevated water table, two Microtunnel Boring Machines (MTBMs) with capability to continuously pressurize the mining face were used. The first MTBM drive was launched in August 2014 from a 45-foot deep secant pile shaft with an Akkerman SL60 MTBM. The SL60 was used throughout the project for the 48-inch RCP sewer, including a 915 LF run through shale, while an Akkerman SL74 was deployed on all the 72-inch drives including the 700 LF curved microtunnel. Both MTBMs were equipped with an increase kit so that the final bore diameter would accommodate the outer bore diameter of the jacked pipe. The machines performed very well in the various ground conditions encountered during tunneling operations.

Walsh Construction worked on all above ground work including tie-in connections to the existing Dugway Culverts, modifications to the thirty-nine (39) existing combined sewer flow regulating structures, and demolition of eight (8) buildings.

SX Foundations, Inc., provided all of the secant pipe shaft construction for the project.



TOTAL VALUE OF CONTRACT:

\$ 27,324,971 (Super Excavators portion of JV only)

COMPLETION TIMELINE:

DECEMBER 2013 - OCTOBER 2015

COMPLETED AS:

WALSH / SUPER EXCAVATORS, A JOINT VENTURE