



# Menomonee Special West

**LOCATION:** Milwaukee, WI

**OWNER:** Milwaukee Metro Sewerage District

**OWNER CONTACT:** Larry Ellis, (414) 272-5100  
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**ARCHITECT OR ENGINEER:** R.A. Smith  
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## PROJECT PROFILE

Super Excavators implemented two tunneling techniques on this project - Tunneling with a EPB TBM, and microtunneling with a MTBM. In total, the project included the installation of 669' of 84" Hobas via Microtunnel, 611' of 30" RCP via Microtunnel, 3,000 linear feet of 84" RCP via EPB TBM, and construction of 6 shafts using steel sheeting and liner plates.

The 84" Microtunneling was constructed in very low blow count wet organics, silts, and sands., and crossed under the Milwaukee River approximately 35' below the water. The MTBM was able to launch in very high water pressure conditions, mine through jet grout blocks, navigate through nearly zero blow count soils, and go through wood piling obstructions without any ground loss. Because of the proximity to the Milwaukee River, an important natural resource to the area and habitat to Salmon spawning, the staging areas required great care as runoff or waste could greatly affect the river's water quality. During tunneling, it was critical that we control face pressures and slurry in order to not have a "Frack Out" and contaminate the water.

The shafts for this project were constructed of steel sheeting near the river and excavated deep enough (35 feet below the water table) to require a concrete plug on the shaft bottoms. These were installed to protect the shaft from any buoyancy issues related to the high groundwater on the outside of the shaft. The shaft portals needed ground improvements and we used a combination of jet grouting and chemical grouting of the soils.



**TOTAL VALUE OF CONTRACT:**  
\$18,336,619

**COMPLETION TIMELINE:**  
JUNE 15, 2005 - JUNE 25, 2007

**COMPLETED AS:**  
PRIME CONTRACTOR