CASE STUDY
MICROTUNNELING | SLURRY MICROTUNNELING

Project Name:
Sims Bayou Microtunnel Project

Prime/Sub Contractors:
Melcar Group - Conroe, TX

Location:
Houston, TX

Owner:
City of Houston
US Army Corp of Engineers

Ground Conditions:
Highly variable - running sands, cobble, and high hydrostatic pressure

Akkerman Equipment:
SL82P Microtunnel System

Pipe:
80-in steel casing x 20-ft long

Total Length/Longest:
524-LF

PROJECT OVERVIEW

Although the long-anticipated completion of the Sims Bayou project was hindered by shaft complications due to the high hydrostatic pressure within flowable ground, Melcar Group was able to successfully complete the last remaining segment of infrastructure that will supply fresh water to over 285,000 residents located within the Sims Bayou watershed. With assistance from Akkerman technical staff, Melcar crews navigated the crossing online & grade in just 23-days of operation, allowing the City of Houston and the US Army Corp of Engineers to put the $18.9 million dollar project into its final stages of completion.

THE CHALLENGES

- Ground conditions were highly variable, including running sands, cobbles, and areas of high hydrostatic pressure
- Shaft complications delayed progress and required innovative approaches to stabilize conditions
- Precise control was needed to maintain line and grade through unpredictable geology
- Project was the final segment of a large-scale $18.9 million infrastructure initiative, adding pressure to deliver on time

THE SOLUTION

- Melcar Group utilized the Akkerman SL82P Microtunnel System to manage difficult ground conditions and maintain alignment
- Supported by Akkerman technical staff, crews were able to adapt in real time to hydrostatic pressure and flowable ground
- Installed 80-in. steel casing (20-ft sections) across a 524-LF crossing with high precision
- Completed microtunneling operations in just 23 days, helping move the project toward final completion for the City of Houston and the US Army Corps of Engineers

OUTCOME

- Successfully completed the final 524-LF segment of the Sims Bayou project despite challenging ground and shaft conditions
- Maintained line and grade accuracy through complex soil conditions using the SL82P Microtunnel System
- Completed microtunneling in just 23 days, accelerating the timeline for project closeout
- Enabled the delivery of fresh water infrastructure to over 285,000 residents in the Sims Bayou watershed
- Demonstrated the effectiveness of collaboration between Melcar Group and Akkerman technical support under high-stakes conditions

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