

# CASE STUDY

## PILOT TUBE METHOD | GUIDED AUGER BORING



**Project Name:**  
Accelerated Water Meter Program,  
River Park Neighborhood

**Trenchless Contractor:**  
Pacific Boring, Inc.  
**Trenchless Design Engineer:**  
Bennett Trenchless Engineers

**Location:** Sacramento, CA

**Owners:**  
City of Sacramento and Union Pacific Rail Road

**Ground Conditions:**  
Sand, Silt, Clay

**Akkerman Equipment:**  
GBM 240 Jacking Frame, Guidance System

**Pipe:**  
20-in. Steel Casing

**Total Length/Longest:**  
250-lf.

### PROJECT OVERVIEW

The City of Sacramento began a water meter installation program for unmetered water service connections to promote water conservation. In conjunction, the City chose to leverage construction costs and improve efficiencies by concurrently replacing aged water distribution lines with the new meter installations.

This project included 60 miles of 6-12-in. water main replacements. Twelve miles of the replacement mains fell within the River Park neighborhood, which included a supply main that crossed beneath two UPRR tracks. With no available open corridors, and need to continued service and system pressure, a trenchless installation was deemed necessary.

### THE CHALLENGES

- No available corridors for open-cut
- Launch and reception shafts had to be 50-ft. from the UPRR right-of-way
- Required ground settlement monitoring to ensure track settlement was limited to less than 0.25-in.
- Many existing utilities, including a 66-in. force main and pump station
- Limited available work areas
- Strict schedule for completion and restoration required detailed coordination with UPRR

### THE SOLUTION

Guided boring was selected as the ideal construction method for its steering and guidance capabilities to circumvent existing utilities and thereby reduce risk. A launch shaft was set up in an industrial park lot at 10-ft. depths and the reception shaft in the ballpark outfield.

### OUTCOME

- Pilot tube installation completed in two hours and steel casing installed in two shifts
- The scheduled was maintained, although COVID restraints canceled the baseball schedule
- Responsible construction of a critical water main with a minimally invasive construction method.

