

# CASE STUDY

## PILOT TUBE METHOD | PILOT TUBE MICROTUNNELING



**Project Name:**  
Sewer Group 786

**Prime Contractor:**  
Ortiz Corporation

**Location:**  
Pacific Beach & Mission Bay Area, CA

**Owner:**  
City of San Diego, CA

**Ground Conditions:**  
Soft Sand and Clay

**Akkerman Equipment:**  
GBM 240A Jacking Frame, Guidance System, Casing and Auger Assemblies

**Pipe:**  
8 and 12-in. ID NO-DIG® Vitrified Clay Pipe, 1m Joints

**Total Length/Longest:**  
3,700-lf./370-lf. of 8-in. ID VCP

### PROJECT OVERVIEW

The City of San Diego needed to replace a region of sewer infrastructure in the Pacific Beach and Mission Bay areas. A total of 3,700-lf. was identified for pilot tube guided boring trenchless installation to minimize tourist traffic disruption. This area is home to many beaches, aquatic sports and the Sea World theme park, so continuous highway traffic was a challenge.

The project included the replacement of existing sewer mains applying the following construction methods:

- Rehabilitate approximately 3,700-lf. using pilot tube guided boring trenchless technology
- 4-21-ft. depths through the median of the main arterial 4-lane roadway and neighborhood
- Replace-in-place and realign approximately 11,645-lf. within existing trench alignments via open trenching

The work also included replacement of 50 existing manholes, pedestrian curb ramps, new sewer laterals, and re-plumbing of existing sewer laterals.

The project was initially bid as open-cut construction. In the first 700-lf., the soils were so unstable that trench widths reached 15-ft. The soil was also contaminated which required a significant amount of disposal. As costs and social impacts mounted, the owner re-bid the project with the pilot tube guided boring trenchless solution encouraged wherever possible.

### THE CHALLENGES

- Tourist area with high levels of traffic
- Contaminated soil
- High level of groundwater, dewatering at 5-50 gpm pumping volumes
- Flat grades ranging from .25-.75%+

### THE SOLUTION

Ortiz crews used a 240A Guided Boring System to install 3,700-lf. of 8 and 12-in. ID VCP in 19 runs with the three-pass method. The solution allowed them to accurately install the pipe in the highway median with live continuous traffic alongside the project zone.

### OUTCOME

- Successful installation of 3,700-lf. of new sewer laterals
- Minimized construction impacts
- All line and grade tolerances met
- Reduced construction schedule over original design
- Finished under budget

