

# BOULDER MSI

 Boulder, CO

## BACKGROUND

The project involved the installation of three secant shafts to support the construction of the city's main sewer line, which transports wastewater to the Boulder Water Resource Recovery Facility. The shafts would provide general contractor, BT Construction with access for a Mini Tunnel Boring Machine (TBM) to install a portion of the sanitary sewer line.

## SCHNABEL'S ROLE

BT Construction contracted with Schnabel to install 84 individual secant shafts, which involved 2,892 vertical feet (VF) of drilling using a Bauer BG28. The project featured two receiving shafts, each with a 20-foot diameter and varying excavation depths: one shaft reached 33 feet deep, while the other extended to 28 feet. The third shaft was a 33-foot diameter launch shaft, with an excavation depth of 28 feet.

## CHALLENGES

### Weather Conditions

- This work was performed during the cold and snowy season in Denver, which posed a significant challenge to the work environment and safety.
- **Solution:** Schnabel constructed a stable working platform to ensure a secure bench under these challenging conditions. They also managed the schedule efficiently to minimize downtime.

### Limited Access for Drilling

- One of the secant shafts had tight access constraints that limited Schnabel's ability to maneuver the equipment.
- **Solution:** With careful planning, drilling was done safely and efficiently, maximizing the use of limited space.

### Traffic Management and Rig Mobilization

- The three shafts were built along major roadways complicating the mobilization of equipment and potentially disrupting traffic flow.
- **Solution:** Schnabel planned each rig mobilization carefully to minimize traffic disruption. One mobilization occurred overnight to ensure safety and reduce impact.



## AT A GLANCE

### WORK PERFORMED BY SCHNABEL

- Installation of 84 individual secant shafts
- Two receiving shafts, 20 feet in diameter
- One launch shaft, 33 feet in diameter

### BENEFITS FOR CLIENT

- The work was completed two weeks ahead of schedule and facilitated the construction of the city's main sewer line.



**KEVIN CARGILL, PE**  
Schnabel President

“With over 60 years of experience, Schnabel is committed to being the safest and most efficient geotechnical company, providing effective and timely solutions for our clients.”

