# CASE STUDY
# TUNNEL BORING | ROCK TUNNELING

**Project Name:**
Fayetteville West Transmission Main

**Prime/Sub Contractors:**
Minger Construction Co., Inc. – Jordan, MN

**Location:**
Fayetteville, AR

**Owner:**
Municipal Water Authority

**Ground Conditions:**
Solid limestone with compressive strengths up to 15,000 PSI

**Akkerman Equipment:**
5200 Pump Unit with Series II 600 TBM. Rock-face cutterhead configuration

**Pipe:**
72-in steel casing

**Total Length/Longest:**
600 LF

## PROJECT OVERVIEW

Minger Construction completed tunnel boring operations for the Fayetteville West Transmission Main project in Fayetteville, Arkansas. The project required installation of a 72-in steel casing beneath Clear Creek to support a water transmission line.

Operating in highly competent limestone, the crew utilized a rock tunnel boring machine to maintain controlled excavation and alignment. The installation demonstrated the effectiveness of TBM-based trenchless methods for long drives in hard rock conditions.

## THE CHALLENGES

- Excavating through solid limestone with compressive strengths up to 15,000 PSI
- Maintaining line and grade accuracy in hard rock conditions
- Performing installation beneath Clear Creek with limited tolerance for deviation
- Managing consistent production rates in highly abrasive material

## THE SOLUTION

- Utilized the Akkerman Series II 600 TBM with rock cutting head to effectively excavate limestone
- Deployed the 5200 Pump Unit to provide controlled thrust and consistent pipe advancement
- Maintained precise guidance and alignment throughout the installation
- Applied rock tunneling methods designed for high-strength, abrasive ground conditions

## OUTCOME

- Successfully completed the 600 LF tunnel installation beneath Clear Creek
- Maintained accurate line and grade control through solid limestone
- Achieved consistent excavation performance in high-strength rock conditions
- Enabled installation of critical water transmission infrastructure
- Demonstrated reliable TBM performance in demanding rock tunneling applications



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