CASE STUDY
TUNNEL BORING | STORMWATER

Project Name:
2025 Design Road & TH 371 Stormwater Improvements

Prime/Sub Contractors:
Minger Construction – Jordan, MN

Location:
Baxter, MN

Owner:
Minnesota Department of Transportation

Ground Conditions:
Sand and gravel with sand shelves

Akkerman Equipment:
5200 Pump Unit with Series I 660 TBM

Pipe:
60-in Reinforced Concrete Pipe (RCP)

Total Length/Longest:
144 LF

PROJECT OVERVIEW

Minger Construction completed tunnel boring operations for the 2025 Design Road and TH 371 Stormwater Improvements project in Baxter, Minnesota. The project required installation of a 60-in reinforced concrete stormwater tunnel beneath a high-traffic highway corridor.

The trenchless installation enabled uninterrupted traffic flow along a major regional route while supporting critical drainage infrastructure improvements. Operating in sandy and granular soils, the crew utilized TBM methods to maintain controlled excavation and alignment beneath the roadway.

THE CHALLENGES

- Excavating in sand and gravel conditions with limited natural cohesion
- Maintaining ground stability using sand shelf techniques
- Performing installation beneath a high-traffic highway corridor
- Delivering efficient production within a constrained schedule

THE SOLUTION

- Utilized the Akkerman 5200 Pump Unit with Series I 660 TBM for controlled excavation
- Implemented sand shelves to stabilize excavation in granular soils
- Maintained precise line and grade control throughout the installation
- Applied efficient tunneling practices to accelerate production and minimize disruption

OUTCOME

- Successfully completed the 144 LF stormwater tunnel installation
- Maintained accurate alignment beneath TH 371
- Achieved stable excavation performance in sandy, granular conditions
- Completed installation efficiently within a limited schedule
- Enabled improved stormwater management infrastructure while maintaining traffic flow



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