

## Savage Interceptor Highway 13 Crossing Savage, Minnesota

Construction of two small force mains required crossing the heavily traveled Highway 13. A contact between black organic silt and highly fractured and weathered Shakopee dolomite existed near tunnel invert elevation.



The contractor jacked two 36-inch steel casings side by side the total 140 feet of alignment. Excavation of the organic silt was by hand methods. Air hammers were used to remove up to one foot of Shakopee dolomite in the lower portion of the tunnel.

CNA was the tunneling consultant for the project and provided the following services:

- Tunneling specifications preparation
- Geotechnical report including computer generated geologic sections (soil stratification, rock jointing and fracturing)
- Tunneling submittal review
- Construction monitoring

---

**Owner — Metropolitan Council Environmental Services**

**Completion Date —1988**

**Construction Cost - \$3.2 million**

**CNA**  
**Consulting**  
**Engineers**

2800 University Ave. SE, #102  
Minneapolis, MN 55414  
Ph: (612) 379-8805  
Fax: (612) 379-8160  
E-mail: bkn@cnaengineers.com