

# 2-2.5 Million Gallon Storage Tanks Shakopee, MN

The Shakopee Public Utilities Commission (SPUC) completed a Comprehensive Water System Plan in 2002. This plan identified the need for an additional 5 million gallons (MG) of ground storage in the eastern part of the City. PCE completed an analysis of one 5 MG tank versus two 2.5 MG tanks. This analysis showed that two 2.5 MG tanks were more economical and provided more operational flexibility.

The SPUC retained Schoell and Madson, Inc. (SMI) to design the site grading, water tanks, and connecting 18" watermain. SMI selected Progressive Consulting Engineers, Inc. (PCE) to complete the design of the two 2.5 MG tanks and the concrete vault to house the control valves.



The tanks are 110-foot circular pre-cast, wire-wound, pre-stressed concrete tanks designed to contain water to a depth of 35 feet. The tanks will be buried within a few feet of their flat roofs. Interior PVC piping systems and separate inlets and outlets for the tanks keep water circulating in the tanks to discourage stagnation and freezing. The valve vault contains check valves and shutoff valves that are operated from the vault roof.

PCE completed plans and specification sections relevant to the 2.5 MG tanks. SMI submitted the plans and specifications to the Minnesota Department of Health for approval. On approval, the plans and specifications were issued for bid.

The project was bid in June 2003 and construction was completed in the fall of 2004. PCE provided construction administration services including shop drawing review and construction observation assistance.

The City of Savage had expressed an interest in purchasing up to 3 MGD of water from these tanks. PCE completed a water distribution system analysis using the existing and future model to determine the amount of water that can be supplied to Savage without adversely affecting the Shakopee Water System.

Key PCE staff members involved with the project include: Naeem Qureshi, overall tank Project Manager; and Brian Zinnel, Design Engineer and Construction Period Services representative.

**Client: Shakopee Public Utilities Commission/Schoell & Madson, Inc.**

**Client Contact: John Crooks, Shakopee Public Utilities Commission**

**Year Completed: 2004**

**Bid: \$3,198,667**



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