

Grand Rapids Water Tower Equalizes Water System Pressure

The majority of the City of Grand Rapids south of 10th Avenue is at a higher elevation than the rest of the City. This, combined with recent growth in residential and industrial demands, resulted in low system pressures and inadequate fire flows.

The Grand Rapids Public Utilities Commission (GRPUC) retained Progressive Consulting Engineers, Inc. (PCE) to complete a study to eliminate these problems. The study recommended the creation of a high pressure zone south of 10th Avenue with a booster station and a 500,000 gallon water tower to increase water pressure and improve fire flows.

The new fluted column water tower was constructed on property acquired by GRPUC at the southern edge of the City near TH 169. The project includes 3,000 feet of 12" watermain for connecting the tower to the existing distribution system. The tower and the connecting watermain were let as two separate projects in order to reduce costs to the GRPUC.

The tower design includes an insulated riser pipe to avoid pipe freezeup during extreme Minnesota winters. Special consideration was also given to the pump station operation to promote water circulation and to prevent icing conditions in the tank.

The new water tower works with the booster station designed by PCE to provide adequate water pressure for the entire southern zone. Extensive distribution system modeling was completed to analyze water pressures and to determine optimum pump station and water tower locations.

The PCE team prepared plans and specifications, completed the Drinking Water Revolving Fund application, prepared applications for government review agencies, and prepared the Environmental Impact Worksheet for the project. The tower was constructed over a period of one year and became operational in September 2000.

Client: Grand Rapids Public Utilities Commission

Client Contact: Anthony Ward, General Manager

Year Completed: 2000

Bid: \$956,815 Final Construction Cost: \$983,813 Change Orders: 2.82%



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