



### Water Treatment Plants Feasibility Study for Cloquet, MN

The City of Cloquet has five wells for their water source. These wells meet the primary drinking water standards, but exceed secondary drinking water standards for two of their wells, Wells 8 and 11. Manganese concentrations are 0.50 mg/l for Well 8 and 0.16 mg/l for Well



11. Both wells exceed the manganese secondary standard of 0.05 mg/l. Also Well 8 has a total dissolved solids (TDS) concentration of 660 mg/l which exceeds the TDS secondary standard of 500 mg/l. Currently the City uses sequestration to manage iron and manganese in the distribution system. PCE has been selected to prepare a report that recommends treatment processes and associated costs to install water plants at each well. Over the years, PCE has served the City of Cloquet on the design of a 1.0 million gallon elevated tank, rate studies and comprehensive water supply plan.

### Water Distribution System Modeling for Hopkins, MN

The City of Hopkins retained PCE to create a water distribution system (WDS) model. Using the City's GIS database, PCE will map out a pipe network including the water plant, wells, pumps stations, and storage tanks. Pipe types and age will be reflected into C values and the model will be calibrated using fire flow test results. The City of Hopkins does not have any major industries which use a large amount of water. There are many multi-residential housing units throughout the city which make up about 70% of the users. To reflect this unique condition, the City and PCE is considering using customer meter data and importing it into the model. This will enable the model to allocate water demands more accurately and the City will be able to identify customers who are affected by events, such as a watermain break. The calibrated model will be available to optimize the pipe sizes in redevelopment areas and areas impacted by the new Light Rail Transit project.



### Presentation "Well Rehabilitation" for Minnesota APWA Conference

Naeem Qureshi is scheduled to present a paper "Well Rehabilitation" Thursday November 22nd, 2014, at the American Public Works Association Minnesota Chapter Fall Conference. The presentation will discuss the type of wells including screened and rock wells and the various aquifers in the metropolitan area; provide a recommendation of frequency of rehabilitation based on well pumping drawdown and yields; and data on rehabilitation of 24 wells in Coon Rapids. The well inspection should include review of well yield, specific capacity, pump bowls, bearings, and motor. When the yields are declining, the well may need redevelopment. Camera inspection, gamma logging, and step discharge testing are normally needed to evaluate the condition of the well. Records of motor age, operating hours service records including repairs, temperature, and current draw need to be carefully reviewed. In some cases, acid treatment may be necessary. Blasting, surging, bailing and test pumping may be required to improve the well yield.



## Water Distribution System Modeling Brooklyn Center, MN



The City of Brooklyn Center is planning a neighborhood improvement program for the year 2015 at Freeway Park and 63rd Avenue neighborhoods. The City retained PCE to complete a water system modeling study for both the areas to determine if any changes could be made during the street reconstruction project that would be beneficial in improving the overall system performance.

A modeling analysis was completed for both of the areas to determine any cost effective changes that can be made to improve the water flow, circulation and quality of water. The final report was completed in August 2014. PCE, over the years, has successfully completed similar analysis to support road reconstruction projects in various areas of the City.

## Well Rehabilitation Coon Rapids, MN

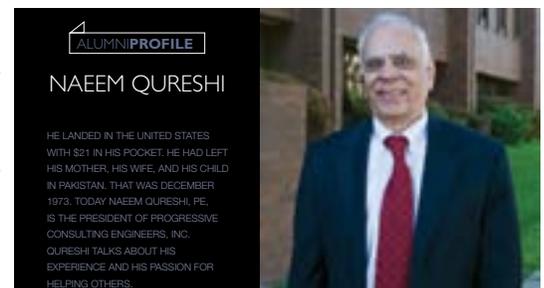


In August 2014 Coon Rapids retained PCE to design the rehabilitation of Wells 8, 9, 10 and 13. The project will involve removal and inspection of well pump equipment and well pump motors. Well discharge piping and valving will be updated by replacing existing air release valves with larger valves to better handle the exhausting of the air in the column pipe at startup. In addition old propeller flowmeters will be replaced with new digital magnetic flowmeters. Bidding is planned for November 2014 with project completion by May 15, 2015, prior to the start of the high water demand season.

PCE has worked on well rehabilitation projects in the years of 2001, 2002, 2003, 2004, 2005, 2011 and 2013. Each year, four to five wells are rehabilitated. This ongoing service shows the satisfaction with our service to the City.

## Naeem Qureshi featured in CEGE Magazine

Naeem Qureshi was the featured Alumni in the Fall 2014 issue of CEGE Magazine, a University of Minnesota publication by the Civil, Environmental and Geo-Engineering Department, in a three page article about his success at PCE, the importance he places on education and his efforts to improve the future of water supply here and abroad. The article reveals the hard work he endured to continue his education, raise a family and work as a civil engineer. Qureshi discusses the importance of building relationships with his clients and employees. The full article can also be found on their website: <http://www.cege.umn.edu>.



### Progressive Consulting Engineers, Inc.

6120 Earle Brown Drive, Suite 629

Minneapolis, MN 55430

(763) 560-9133 • [www.pce.com](http://www.pce.com)

Contacts: Naeem Qureshi • Nuzhat Qureshi • Adam Kramer • Lance Newman • David Brown