



# Water Bulletin



Civil • Water Supply • Municipal

July 2007

## Feasibility Study— Water Treatment Plants Edina, Minnesota

The City of Edina retained PCE for a feasibility study for removing iron, manganese, and radium in two new water treatment plants. The first plant will be a 3,000 gpm facility will treat water from Wells No. 9, 15, and a future 1,000 gpm well. The second plant will be a 2,000 gpm facility and will treat water from Wells No. 5 and 18 in the Southdale area. The study evaluated lime softening, ion exchange, reverse osmosis, hydrous manganese oxide (HMO), and water remediation technology Z-88 media for iron, manganese, and radium removal. The study recommended the use of pressure filters similar to other Edina plants and hydrous manganese oxide (HMO) for removal of radium, iron, and manganese.

## Pilot Plant Study Isanti, Minnesota

The City of Isanti has combined radium-226 and radium-228 levels in excess of the 5 pCi/L standard. The City directed MFRA/PCE to complete a pilot study to determine the design criteria for the new plant. The pilot plant has all the elements of a full scale plant including addition of bleach for chlorination, manganese sulfate and potassium permanganate to form HMO, and a filtration system. The pilot plant evaluated three types of filtration medias: dual media, anthrasand media, and manganese greensand. The criteria to evaluate the performance of the three types of media was headloss, filter run length, and percent removal of iron, manganese, and radium. A report after completion of the study will contain recommendations for meeting the Radionuclides Rule and meeting the secondary standards for iron and manganese.



## Jessica Martin

Jessica Martin has joined PCE as a Design Engineer. Jessica received a Degree in Civil Engineering from North Dakota State University in 2002. She will receive her Master's Degree in Civil Engineering from North Dakota State University in Fall 2007.



## Water/Sewer Utility Rate Study Dayton, Minnesota

The City of Dayton has embarked on a project to provide municipal watermain and sanitary sewer to three areas of the City. It is anticipated that a well along with a 500,000-gallon elevated storage tank will serve 590 homes in the Northwest area of the City. The City presently has different rates for water and sewer services based on where a property is located. The City is now planning to expand water and sewer services to a large area in the northeast and southwest and has retained PCE to complete a rate study that will fund a perpetual utility system, while establishing equitable rates for all customers.

## Comprehensive Water System Plan Shoreview, Minnesota

The City of Shoreview has retained PCE to complete a comprehensive water system plan. Based on the new land use plan, population and demands will be developed. Demands will be assigned to nodes in the water distribution system model. The model will then be calibrated with field data. The calibrated model will be used to identify a need for new wells, storage, and distribution mains. Water quality analysis will be completed to determine the need for iron and manganese removal plants to improve water quality. Recommendations will also be made to improve to the City's ISO classification. The report will contain a Capital Improvement Plan along with recommendations.

## Well No. 20 and Well House Edina, Minnesota

The City of Edina retained PCE to construct a new 1,000 gpm Jordan well. The wellhouse will be constructed after the completion of the well. The well will be located south of T.H. 62 on Gleason Road. PCE will prepare the plans and specifications for the new well. The project will be bid this fall and constructed over the winter. The wellhouse will be constructed in early spring.

## Ben Scholtz

Ben Sholtz has joined the staff of PCE as a Design Engineer. Ben received a Degree in Civil Engineering from South Dakota State University.



**Progressive Consulting Engineers, Inc.**  
6120 Earle Brown Drive, Suite 629, Minneapolis, Minnesota 55430  
Phone: (763) 560-9133 Fax: (763) 560-0333  
www.pce.com E-mail: pce@pce.com  
Contact: Naeem Qureshi, P.E. • Lance Newman, P.E. • Brian Zinnel