

# Premier Water Case Study: Complete Well Water System Overhaul in Deephaven, MN

April 2010

Local author and financial expert [Rob Severson](#) had typical Deephaven well water: rusty, stinky, and hard. He had rented a water softener for years, and it kind of worked. They still fought rust stains, cringed at the odor, and they had to buy bottled water. They were ready for an upgrade.

*"I was in the middle of a kitchen remodel and didn't want my new appliances to get destroyed like the old ones. We had constant rust problems that were affecting our home and my wife's hair too."*

Rob contacted Premier Water to design a water treatment system to meet his needs:

- Completely eliminate the iron and odor issues, not just a "partial solution"
- Minimal salt used by a water softener
- Clean, fresh tasting water - without bottles!
- Eliminate the lifelong expense of renting, bottled water delivery, and heavy salt use

Of the 3 packages we designed, Rob chose a great package using the following systems:

## Hellenbrand H125 Iron Curtain System

We started with a dedicated 2-stage iron filtration system as it would solve a majority of the water problems. In Step 1, water is sprayed through a compressed pocket of air inside a 13"x54" pressurized aeration vessel. As the water and air mix, the iron molecules and hydrogen sulfide gas precipitate out of the water. In Step 2, a 13"x54" filter vessel is used to capture those precipitated molecules and periodically flush them away. The unique design of the filter vessel uses 30% less water to clean and gives 40% better filtration than other filters on the market.



**Iron Curtain System**

## Hellenbrand H125 Water Softener

Step 3 of our new water system used the Hellenbrand H125 light commercial water system to remove hard water scale from the iron-free water. By removing the iron first, we were able to use 59.6% less salt. The new system regenerates on a metered/on-demand schedule and uses variable reserve technology that precisely adjusts to changing water use. The previous system regenerated with salt and water every other day – even if no one was using water! With the Hellenbrand iron filter and high efficiency softener, we were able to reduce salt by almost 80%.



**H125 Water Softener**



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## Hague RO3500 Reverse Osmosis

Step 4 – provide clean drinking water. Private well systems operate at much lower water pressure than city water supplies. Reverse osmosis membranes become less efficient, and produce lower quality water under these circumstances. We used the 4 stage Hague RO3500 because it has an integrated non-electric, water-driven pump. This pump allowed us to overcome the pressure limitation and deliver a steady stream of pure, fresh drinking water.



**Reverse Osmosis**

## Conclusion

The entire system was neatly installed along a wall in the basement mechanical room. All 3 iron filter and softener tanks have dedicated bypass valves and can be easily disconnected for future service/cleaning. The reverse osmosis system was wall-mounted at eye level to make future filter changes a snap.



**Complete System**

Our client now has soft, iron-free, odor-free water throughout the entire home. The water coming through his refrigerator is pure, clean, and fresh!

*“You did an excellent job setting up my system and explained everything thoroughly to me. I now give my water 5 out of 5 stars!”*

Water Quality BEFORE	Water Quality AFTER
Hardness: 19gpg Total Iron: 7ppm TDS: 355ppm	Hardness: 0.5gpg Total Iron: 0.0ppm TDS: 25ppm

5gpg is the average national hardness  
0.3ppm iron is the limit before staining begins  
100ppm+ TDS decreases ice cube clarity

Premier Water is a Chanhassen, MN based company that provides residential and commercial water softening, filtration, and purification solutions. Capabilities range from small point-of-use systems up to high volume whole-house/whole-business applications. Please call (952) 479-4553 for more details.



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