

# The NEBLINE

July 2009

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2009  
**LANCASTER COUNTY FAIR**  
AUGUST 5–9



**Support 4-H — Volunteer at the Lancaster County Fair!**

—see page 9 & 12

## Lancaster Rural Water District Providing Water to Acreages and Villages for 35 Years

**Tom Dorn**  
*UNL Extension Educator*

Following the enactment of the 1967 Rural Water District Act, a group of farm operators in southeast Lancaster County began studying the feasibility of creating a water district. In 1971, the group was able to secure a \$990,000 loan from the Farmers Home Administration to construct phase one of Lancaster Rural Water District No. 1. The initial project, completed in 1974, supplied water to 400 customers.

The rural water system has been expanded over the years. The present boundaries are roughly from Gage Road on the south, to Holdrege Street on the north and from SW 29 Street (Martell) on the west to Road 4 in Otoe County on the east. The district currently has five wells, six elevated storage structures (water towers) plus a half-million gallon ground-level storage tank. There are five booster stations to keep the water pressure at design specifications throughout the distribution system.

Presently, the water district supplies water to 1,575 private customers; each billed individually. They also sell water to the villages of Panama, Bennet and will soon be supplying water to the village of Roca. All of these villages still use their pre-existing water towers and piping systems. The district also supplies customers living in the villages of Martell and Cheney. Neither of these villages has elevated water storage, so depend on the pressure in the rural water district system just like the rural customers.

Much of the growth in the number of individual customers has been due to the ever increasing numbers of acreages throughout the

area. Future projects include building a second half-million gallon above ground storage tank with associated booster pumps and a seventh elevated storage (water tower) to ensure a plentiful supply during peak periods. Plans are moving forward to add another trunk pipeline in an area where additional acreage development is likely.

Eastern Nebraska, including most of Lancaster County, is underlain by a potpourri of strata laid down over several geologic epochs. Much of the groundwater tapped for domestic and livestock use in southeast Lancaster County is in ancient fractured limestone and shale deposits. The water drawn from these deposits tends to have

high levels of calcium and magnesium making the water “hard.” Some groundwater in the area also has high levels of dissolved iron and manganese which, when exposed to air, causes stains on plumbing fixtures, can stain clothes and imparts bad taste to the water.

The main reason the water district was formed was to provide better quality water than people can find beneath their own property. The location and depth of the wells supplying water to the water district are carefully chosen to provide the highest water quality possible. The wells are drilled into a sandstone formation which lies deeper than, and is hydraulically separated from, the aquifer tapped by most domestic wells.

Water quality is closely monitored. Water samples from each well are sent to the Nebraska State Health Laboratory on a regular schedule. Tests to detect coliform bacteria (an indication of contamination by human or animal waste) are taken three times a month. Since first coming on-line, the water has been of such high



**Ken Halvorsen,**  
district manager



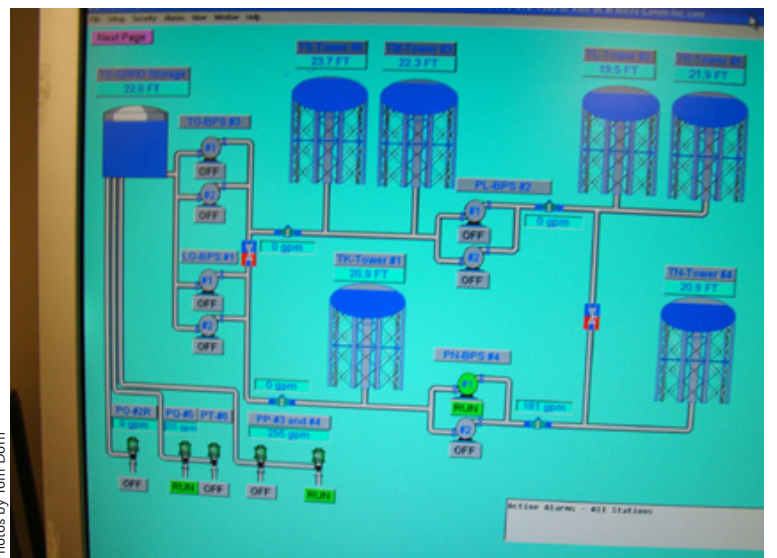
**Nancy Moser,**  
office manager



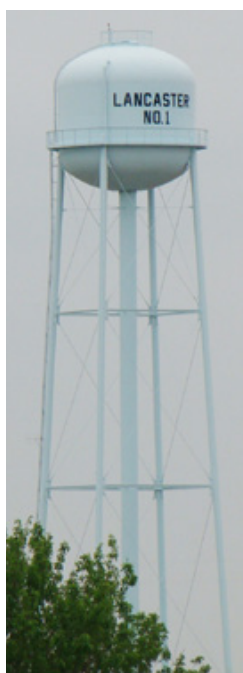
500,000 gallon ground-level storage tank



Pumps at one of five booster stations



Computerized monitoring system



One of six elevated storage structures (water towers)

purity, there has never been a time when the water had to be treated with chlorine to control bacteria in the water delivered by the water district.

Samples are also taken on the schedules set by the State Health Lab to monitor the concentration of heavy metals (*lead, copper and arsenic*). Tests to monitor levels of calcium, chloride, nitrate-nitrogen, fluoride, iron, total hardness, manganese, sodium, pH and sulfate also are taken and analyzed by the state health lab on a prescribed schedule. Tests also scan for trace levels (parts per million or parts per billion) of certain agricultural

pesticides or chemical families of pesticides.

The headquarters of Lancaster Rural Water District No. 1 is in Bennet at 310 Fir Street. For more information, go to [www.lrwd1.com](http://www.lrwd1.com) or call 782-3495.

### FOR MORE INFORMATION

For University of Nebraska–Lincoln resources about water issues, go to:

- UNL Water Web site at <http://water.unl.edu>
- UNL Extension in Lancaster County at <http://lancaster.unl.edu/ag/water.shtml>

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Photos by Tom Dorn