

# City of Victoria Named Most Improved Water System

This new 150,000-gallon elevated storage tank was constructed by Gerard Tank, Concordia, Kan.

**T**he city of Victoria was recognized by KRWA at the 2023 Conference with the “Most Improved Water System Award”. Recent improvements included redrilling of several wells, a connection to Trego RWD 2 as a supplemental water supply, a new storage tank and replacement of some distribution lines and looping of others.

Victoria is located in eastern Ellis County in western Kansas about nine miles east of Hays, just south of Interstate 70. Unlike many small cities in Kansas with a declining population, the population of Victoria has remained fairly constant over the last 20 years at about 1,225. Its location in proximity to Hays and Russell is a factor in that. A relatively new subdivision is being developed at the north edge of the city which will ultimately result in an increase in population.

## Immigrants from two cultures

Victoria was settled by immigrants from two cultures, first by British colonists led by a Scotsman George Grant in 1873 and then later, in 1876 Volga Germans from villages near Saratov, Russia settled in the area. There were actually two communities, Victoria



**Downing Drilling of Lexington, Neb. installed this new well, No. 16. It replaces the original No. 16 well that had lost production capacity.**

named after Queen Victoria and Herzog. In 1913, the city was incorporated when the two settlements combined and chose Victoria as the official name.

### Water system improvements

The city has been active in making improvements to the water system with a water line replacement project in 2010 and a recent project that included major improvements. The city has experienced a basic shortage of water for years resulting in the need to impose water restrictions on customers.

Water is supplied by six wells located south of town in the Big Creek alluvium. Two of the wells, which had been in use for 36 and 51 years, were redrilled as part of the recent water improvements project. The shallow recharge rate in these wells was insufficient during drought conditions. The resulting declining water table caused the city to impose multiple water restrictions over the years and to provide water use guideline information to customers. Water well records of the two redrilled wells show the wells were completed to depths of 52 and 65 feet with static water levels at 18 and 22 feet. Each of these wells will produce approximately 180 gpm.

A major part of the project included the construction of a new 150,000-gallon elevated storage tank located on the north edge of town. The tank was manufactured by Gerard Tank & Steel and was prefabricated at their facility in Concordia, Kan. The tank is 138 feet tall and arrived at the site in sections and was assembled on the ground, then hoisted atop the base with a 270,000-

### Previous Water Restrictions in Victoria . . .

The following paragraph was taken from an earlier city newsletter and is an example of the type of water restrictions that were needed to maintain a viable water supply:

Watering Reminders: As the weather warms up and the prospects of planting flowers and growing a garden return, City officials want to remind everyone of the current water policies. • Lawn watering is allowed one day per week. Residents living south of 10th St. may water lawns on Tuesdays. Those living north of 10th St. may water on Thursdays. • All watering must be done before 10:00 am or after 7:00 pm. • Hand watering of trees, flowers and gardens IS permitted. • Washing of hard surfaces such as driveways, parking lots, windows is prohibited. • Filling of swimming pools and hot tubs is not allowed. • Filling of water storage containers is not allowed. • Waste of water is prohibited.

pound capacity crane. The tank is a single pedestal spheroidal type and is about 33 feet taller than the original 50,000-gallon tank that was constructed in 1921.

Even though improvements were made to the city well field, the system was still vulnerable to drought conditions. To add reliability to the system, the city searched for an additional source and finally was able to work out an agreement with a rural water district in the area. Trego County Rural Water District No. 2 will supply water on a supplemental basis, especially during drought conditions. The city wells will continue to be the primary source of



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New telemetry equipment is located inside the building at the in-ground reservoir.

This project sign shows the funding sources from USDA Rural Development.



water. In order to complete this part of the project though, the district needed to add about 12 miles of pipeline and a standpipe. Both water systems use well water with free chlorine for disinfection so blending water from the two systems should not be a problem.

All water from the city wells and the rural water district flows into an in-ground water storage reservoir with a capacity of 250,000 gallons. As a part of this project, all three high-service pumps were replaced and all pumps (high-service pumps and well pumps) were provided with variable frequency drives (VFDs). Also, a new telemetry system was installed allowing monitoring and control of all systems from this site. Brad Schmidberger, City Superintendent, noted that he was extremely pleased to have this control and was very complimentary of everyone involved with this project.

Finally, this project also included the replacement of water lines on Cathedral Avenue and looping of lines in areas where dead ends were located. Part of the reason for replacing this line was the planned replacement of the pavement on Cathedral Avenue. The original cast iron line was replaced with polyvinyl (PVC) pipe.

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### Funding the project

Funding was provided by the U.S. Department of Agriculture, Rural Development with a grant of \$1.441 million and a 40-year loan of \$2.966 million. Water rates to city customers were obviously impacted by this project. Five thousand gallons before the project cost \$35.00; after the project \$61.00.

### Designers and contractors

As noted earlier, Gerard Tank and Steel erected the new elevated tank. The engineer on this project was Michael Younger with EBH Engineering, Pratt,

**Water rates in Victoria were increased to amortize debt associated with the new project:**

Prior Rates:	New Rates:
\$26.00 for 1,000 gallons	\$32.00 for 2,000 gallons
\$3.00 for 2,001 to 5,000	\$8.00 for 2,001 to 4,000
\$4.00 for 5,001 to 10,000	\$13.00 for 4,001 to 6,000
\$6.00 for 10,001 and above	\$18.00 for 6,001 to 8,000
	\$23.00 for 8,001 and above



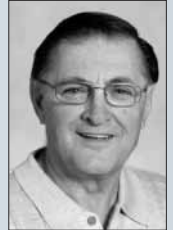
These new high-service pumps are located at the 250,000-gallon in-ground storage reservoir. All pumps on the project are equipped with VFDs.

**Congratulations again to Victoria for receiving the Most Improved Water System Award at the 2023 KRWA Annual Conference.**

Kan. Ned Marks with Terrane Resources, Stafford, Kan. was responsible for designing the two new wells. Downey Drilling, Lexington, Neb. drilled the new wells and APAC Contractors, Hutchinson, Kan. was the contractor.

In summary, this project, especially the addition of the rural water district as a supplemental source of water, should at least minimize the need to continue with the water restrictions. Congratulations again to Victoria for receiving the Most Improved Water System Award at the 2023 KRWA Annual Conference.

*Bert Zerr is currently a consultant with KRWA. He has been with KRWA since 2005. Prior to that, Bert was a District Engineer with the KDHE in the Salina District Office for 32 years.*



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