


Washington County RWD 1 Adds a New Wellfield



Shown here are the two new pitless unit wells. Each well is equipped with a VFD; production is 40 gpm.

Washington County RWD No. 1 serves a large area in the northeast part of Washington county and northwestern Marshall County. The district has about 340 miles of pipeline and presently serves about 673 connections including wholesale water through single meters to the cities of Hanover and Morrowville. The cities of Bremen, Hollenberg and Herkimer are customers of the district also; however, the district has assumed those distributions systems. The district typically produces about 120 million gallons per year from its wells.

The district began operation in 1974 with one wellfield. Later additional wells were drilled northeast of Washington. Over time as the demand for water increased, additional wells were added in two well fields, one located about ten miles north of Marysville, just south of the Kansas-Nebraska state line and another located just northwest of Marysville.

The well field near Marysville has caused some concern for the district because it is located upstream of a small impoundment on the Big Blue River. The impoundment is owned by the city of Marysville and its integrity was in question because of the possibility that failure of the dam could adversely affect the wells with a decrease in yield or possibly total loss of the wells. Because of these concerns, the district began seeking funds to make improvements to the dam.

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Robert Vincent, Ground Water Associates, Inc., Wichita, Kan., was retained to evaluate the dam's influence to the four alluvium wells located upstream from the dam. His evaluation and conclusion were that the dam does impact the wellfield. He stated that "without the presence of the dam, the water



Darrell Schlabach, Manager, points to various property locations where test drilling took place. More than 100 test wells were drilled and involved more than 30 different property owners.



A recent gathering of the principals involved in the new well field project at Washington RWD 1 includes Chris Cox, Schwab-Eaton, PA., Manhattan, Kan.; Hakim Saadi, PE, State Conservation Commission; Mike Meyers, RWD Board Chairman; Darrell Schlabach, RWD Manager and Sharon Schwartz, former State Representative. Sharon was instrumental in obtaining funding for this project.

level in the wellfield will decline, and the production from the wells will decrease particularly during drought periods.”

This project began with the possibility of repairing the small dam to provide some assurance that the well field would continue to be a viable water source for the district. However, after considering the amount of work involved to repair the dam, it was determined that repairing the dam was not feasible due to the high cost. It was decided instead, that the district could use the money to locate and develop a new well field. Darrell Schlabach, District Manager, stated that the district encountered numerous problems when looking for a well site including obtaining permission from 30 landowners to gain access, and finding a suitable quantity and quality. The district drilled more than 100 test wells before finally finding a suitable well site.

The engineering firm of Schwab-Eaton, PA, Manhattan, Kan., was retained to design the




This photo shows the piping inside the control building with the chlorine booster pump in the foreground.

The funding source . . .

Regarding this funding source, the following was taken from the Kansas Department of Agriculture website: “The Division of Conservation (DOC), Kansas Department of Agriculture administers four voluntary cost-share programs, the Water Resources Cost-Share Program, the Non-Point Source Pollution Control Program, Riparian and Wetland Protection Program and the Governor’s Water Quality Buffer Initiative Program. These programs provide financial assistance to eligible landowners for conservation practices that reduce soil erosion, improve water quality and/or conserve water.

All of the DOC programs are guided by the State Conservation Commission (SCC) board of commissioners consisting of five elected and four appointed members. The Kansas Water Authority annually develops the Kansas Water Plan, which provides recommendations to the Kansas Legislature in determining appropriations and priorities. Most of the DOC programs are funded through the Kansas Water Plans dedicated sources of funding. It is by this funding source the DOC, through conservation districts, has financial assistance available for Kansas landowners to apply conservation practices.”



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District Operator Jeff Schlabach works at installing a satellite meter reading unit during a demonstration sponsored by IDT and the RWD.



Former State Representative Sharon Schwartz, District Manager Darrell Schlabach and Hakim Saadi, State Conservation Commission, discuss some of the challenges getting the project funded and completed.

new well field and chlorination building. The location of the wells is to the southeast of the city of Hanover, just north of Highway 36. The wells were developed with pitless units; they are equipped with variable frequency drives (VFDs). Production capacity is about 40 gpm from each well. The well driller on this project was

The addition of this well field provides the district with a higher level of sustainability, especially considering the risk of the dam failing near the Marysville wellfield.

Strader's Blue Valley Drilling, Pickrell, Neb. Greeley Excavating of Greeley, Kan., installed the pre-fab chlorination building and six miles of pipeline. The addition of this well field provides the district with a higher level of sustainability, especially considering the risk of the dam failing near the Marysville well field.

Darrell and son, Jeff Schlabach, Operator, continue to install the Harmony Informational Data Technologies, (IDT) satellite automatic meter reading equipment (AMR). They began installing AMR equipment in 2013. As of June 1, 2017, the district has installed 377 of the IDT satellite meters. After the 2016 KRWA conference, the district began installing some Metron-Farnier meters which uses Verizon cell phone for data transfer. The district has 180 of those installations. A total of 115 self-read meters remain to be transferred to AMR technology.

The AMR equipment allows daily meter reading and has many advantages including moving away from customer reading of meters and timely discovery of leaks in the system reducing water loss. Leaks have been a major problem over the years especially with the 1.5-inch solvent weld PVC pipeline. In 2016, the district located and repaired 99 leaks. Also, because of the preciseness of the AMR systems, 60 leaks on the customers' side were identified by the district staff. This allowed for timely notices to alert customers of possible leak and for repairs to be made. Darrell noted that this



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This display shows the date and location of leaks in the distribution system. The District continues to track waterline repairs. In 2016, the District made 99 repairs. More than 80 of those were on 1.5-inch solvent welded pipe that broke at the coupling during cold weather.

feature is good for public relations and saves customers money. Washington RWD 1 continues to make improvements to the system to ensure customers have an adequate quantity of good quality water and to timely discover leaks on the customer side of the meter.

Washington RWD 1 started drilling test wells in 1969. The District was bid in 1973 and in 1974 started pumping the first water out of one well field (Lanham or P1). The original project had three storage tanks, four wells, 140 miles of pipeline and 206 customers including the cities of Hanover and Bremen as wholesale customers.

In 1982, 110 miles of line were added, with two additional well fields, one being northwest of Washington

and the other located two miles north of Marysville along Hwy 77. This well field has 4 wells in it. Also, a 150,000-gallon elevated tank was constructed south of Herkimer. The district also added 229 new customers.

In 2012 the district began pumping water from another new well field (No. 4) and installed seven miles of new mains, and added a new 100,000-gallon elevated storage tank.


In 2016, 6.5 miles of new main were added when well field No. 5 was placed into production. Also with the 2016 project, the district replaced about eight miles of 1 1/2-inch pipe. The cities of Morrowville and Hollenberg were also served.


Washington RWD 1 is a progressive water system which has a proactive board of directors and an extremely dedicated staff. Pamela Goeckel is office manager; Pam works closely with Darrell and Jeff Schlabach to ensure that the customers along the district's 340 miles of pipeline have as high of quality water service as possible.

Washington RWD 1 continues to make improvements to the system to ensure customers have an adequate supply of good quality water.

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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