

KAN STEP water system success grows for communities and RWDs

When the Rensselaerville Institute in New York developed the Small Towns Environment Program or 'STEP,' in the early 70s, the communities of Enterprise, Corning, Agra and RWDs in Kansas were not imagined as candidates for the unique self-help project. The Rensselaerville Institute started their self-help program by buying – yes, purchasing – the communities of Stump Creek, Pa. and Corbett, N.Y. They initiated and oversaw the renovation of each community's water and wastewater infrastructures.

Unlike Stump Creek and Corbett, the Kansas communities mentioned were not in need of being 'bought,' but needed economic assistance for aging waterlines. As of January 1, 2008, the KAN STEP program funded through the CDBG program of the Kansas Dept. of Commerce has funded successful completions of nine water system projects. Here we take a closer look at four of these projects.



Pete Koenig
GPS Mapping Coordinator

First water system installation

Enterprise is a cozy town of 865 people located four miles south of I-70 and five miles east of Abilene. It's a bedroom community to Abilene, Junction City, Manhattan and Salina. The town may be picturesque, but the water system had major problems. Enterprise's city staff continually

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struggled to repair numerous leaks on an older system with too few operating mainline valves. That all changed when Enterprise's KAN STEP grant was approved.

A grant in the amount of \$144,125 was used to purchase new valves, more than 3,000 feet of new pipeline, 1,000 feet of 1-in. service line, two new fire hydrants, the rental of equipment and material for backfilling trenches. The project went better than anticipated.

"The original plans called for replacement of only 11 valves. Our bids from local suppliers surprised us as we found we could purchase an additional 13 valves, plus hardware. This gave us more control of the distribution system. Now we avoid shutting down large sections of the city for line repairs," Project Sparkplug and City Superintendent Paul Froelich explained. "Many times we had to shut down two-thirds of the town to repair a line or do hydrant

maintenance. Now we can isolate and shut down service to no more than a two-block area of any main. And since 2003 during construction, when we replaced six valves in one day, we haven't had to issue a single boil water advisory!"

Also since completion in 2003, the five blocks of new water line have not needed repairs. Fire flow has been increased and water quality, due to the looping of a line, has greatly improved. "We have seen a very good return on our investment," Froelich concludes. The



Enterprise City Superintendent Paul Froelich's work to replace a 6-in. valve was part of the Enterprise KAN STEP project. The image shows him making a line cut in the process to remove the old valve. This picture was taken on June 10, 2003.



Volunteers installed an entirely new water system in Corning located in Nemaha County in 2004. This photo was taken from the top of the grain elevator on June 19. Approximately 100 new services were also installed. Corning was so efficient on the program it returned \$23,946 of the \$234,189 KAN STEP grant.

investment described here by Paul is not financial, but is old-fashioned physical labor. This is because KAN STEP communities match grant funds with “sweat equity,” or the donation of local

volunteer time and labor. This saved the project 40% in total costs!

Water projects get bigger

In the summer of 2004, the community of Corning in Nemaha County was awarded a KAN STEP grant for the replacement of its aging water system. But unlike Enterprise, the entire system was failing, not just small sections. Most of the system was ABS (hard black plastic) or concrete asbestos pipe. The decision was made to replace the entire system – including all pipeline, every hydrant and valve and all 100 service lines and meter settings. What an undertaking! Although the scope of the project was much more extensive than in Enterprise, the logistics of it was in some ways easier because it was similar to installing a new system – without having to tie in existing pipelines.

The project went well as there were many volunteers who worked after hours and on weekends, even holidays.

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Originally estimated at eight months for completion, the project was finished and tested in just over three! After its finish, Project Sparkplug and City Clerk Diane Haverkamp explained,

incur debt for the improvements, the water rates have remained the same and are incredibly low. This is welcomed in a community of many older citizens on fixed incomes.

County 10 miles east of Phillipsburg. People in Agra demonstrated a “can-do” attitude when volunteers built a new city office building in 2004 when a local charity agreed to pay for the materials.

Agra City Clerk Lyndi Bell was more than ready for the next project. She relished applying for the KAN STEP grant that would eventually replace water lines that were plagued with excessive mineral deposits. City Operator Francis Gordon explained, “We feel very fortunate to have been awarded the grant and know that if it wasn’t for Lyndi’s work, we wouldn’t have the system now!” This compliments what Francis Gordon says about neighboring towns: “Neighboring communities are a little jealous that we were able to do this. They often ask us how we did it. I tell them, ‘we just took it one day at a time.’ I’m sure they could do it too – but they don’t think they can, so they don’t try. We just decided to try.”

Everyone in town is extremely happy that they ‘tried.’ More than 13,000 feet of new PVC pipe was installed and water quality improved because the old iron lines that had fouled water with excessive mineral deposits were gone. The re-locating of fire hydrants and completion of several new pipeline loops improved operations and fire protection as well.

Francis says that there’s a sense of pride by everyone in Agra in completing the project. People contributed. They operated the backhoe, hauled and laid out pipe, bolted fittings and valves, set meters, backfilled trenches, replaced asphalt and cooked meals. They did what they could do to help out.

Folks in Agra are also quick to express appreciation to people and organizations assisting the



Local volunteers on the Agra KAN STEP water system project not only proved they can cut a straight trench, the system has not experienced a single leak since installation in 2005. Agra’s project was also an “all new” system, involving pipeline and valves, hydrants and approximately 140 new services.

“Maintenance costs are nearly zero on the new system and water service has been without interruption. And since we are trying to build-up a ‘street repair fund,’ it’s nice to have money set aside for capital improvements. And we are able to do all of this without increasing water rates!”

The KAN STEP program supplied the money for more than 21,500 feet of new pipe, 27 new valves, 13 new fire hydrants and approximately 100 meters and meter wells. The grant also paid for the rental of trenching equipment and backfill materials. Volunteers at Corning provided the labor and since the city did not

Haverkamp commented further, “We approached the process of community improvement in the right way. People had been talking about replacing streets for years; however, it didn’t make sense to place new streets on top of old water and wastewater lines. We would have needed to cut through new streets to repair waterlines.”

A grant and loan replaced Corning’s wastewater system and the KAN STEP project replaced the water system. So now the city is on to the next ‘phase’ of improvements – working on a plan for the streets! Corning also has a community building and library under construction, thanks to the KAN STEP program.

New water lines in Agra

Agra, Kansas has a population of just over 300 and is a farming community located in Phillips

community with their project. They include the Kansas Department of Commerce for providing the grant; consultant Stuart Porter of Schwab-Eaton, PA for designing an efficient

KAN STEP reduces high water losses in Greenwood RWD 1

Greenwood County Rural Water District 1 is located near the city of Eureka in southeastern Kansas. The District's original system was designed and installed using the old grey, solvent weld pipe. Due to ground shift, contraction and expansion from temperature changes and sub par installation practices, the RWD has endured unending breaks and unacceptable high water loss.

The District applied for and was awarded a KAN STEP grant to replace pipe most prone to breakage. The

first phase was completed in November 2007; three additional phases are planned for coming years. The first phase consisted of the installation of over 45,000 feet of new PVC pipe, valves and master meters to monitor water loss. The terrain in Greenwood County is extremely rocky and the lengthy project strained and tested a lot of equipment. RWD 1 operator Jim Boughner and the many volunteers experienced numerous machinery breakdowns due to the rocky conditions. But Jim and the crews were patient and steady in their approach to installing the new water lines. Moving boulders the size of oil drums is something many systems have never experienced.

Water loss in the district has been reduced since the new line installation. As additional lines

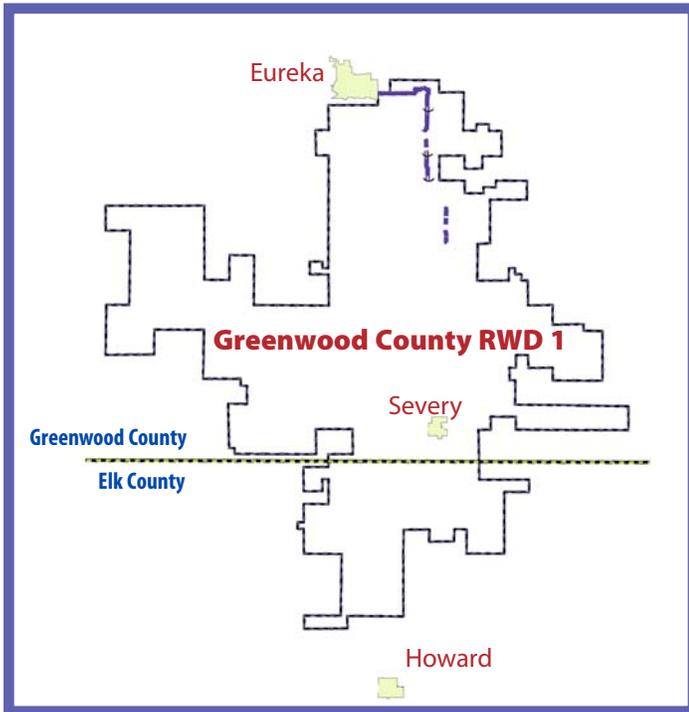
are replaced, the district should realize even less water loss resulting in controlling the costs of water loss and line repairs.

RWD Board Chairman Lloyd Rice, Jr. had a lot of praise for the project. "The KAN STEP program is great for RWDs and small communities that need help. Everything went very smoothly and Grant Administrator Donna Crawford was very good to work with. KAN STEP saved our district a lot of construction money and we are hoping for good results on our water loss."

Donna Crawford is the project grant administrator with Governmental Assistance Services and Bruce Boettcher with BG Consultants, Emporia, is project engineer.

A good record gets better

Since the first KAN STEP water system project in Formoso, Kansas in 2000, KAN STEP has completed nine water system projects as of January 1, 2008. All the completed projects and those in progress are posted on the KRWA Web site at www.krwa.net under 'technical assistance.' If you haven't checked it out, I encourage you to do so as the site includes project descriptions and hundreds of photos. I also want to encourage you to attend the 2008 KRWA Conference. The Department of Commerce will have a booth in EXPO Hall where you can meet representatives of the agency and discuss funding options. Also, attend the presentation by Commerce KAN STEP Manager Salih Doughramaji on Wednesday, March 26 at 1:30 p.m.



This graphic shows the boundary of Greenwood RWD 1 serving southern Greenwood and northern Elk counties. The blue line represents the 45,000 feet of new pipeline installed in a 2007 KAN STEP project.

water distribution system and providing such easy to read construction prints, Michele Kippes of Northwest Kansas Planning and Development for providing accurate and thorough grant administration and the Kansas Rural Water Association for providing technical assistance and inspection.

But in my opinion, the real congratulations go to Francis Gordon, Lyndi Bell, Mayor Scott Bretton and other community members for having positive attitudes and for their investment of hard work that demonstrated they could indeed install an entire water system.