

Gaining Improved Mapping Requires Accurate Information

The Kansas Rural Water Association (KRWA) has completed more than 300 mapping projects for RWDs and cities in Kansas. More and more people are now recognizing the value of having quality maps in a digital format. One thing that I would like to point out though, is that not all maps produced by KRWA, or any other utility mapping company, are going to be completely accurate. One city's or RWD's maps from KRWA may be entirely more accurate than another, and it needs to be recognized that the labor in these projects should involve the respective system just as much as KRWA. Obviously if a utility has made the decision to take part in a GPS mapping project, then there was a recognized need for better maps. It also needs to be recognized though, that GPS mapping alone cannot accomplish this. In a sense, KRWA mapping should be used as a tool to accomplish the end goal – better maps.

With the end goal of having better maps through GPS mapping, it should be apparent that anyone with locational knowledge of the system becomes involved with the project. Whether it be landowners in a RWD, present or former operators and excavators, having them involved helps to obtain all possible information

concerning the installation and locations of pipes, valves, etc. to make the new maps better than the old maps. Otherwise, the new maps will have the same incorrect water lines.

Many RWDs that were installed in the 60's and 70's were provided as-built maps at the completion of their project. Some of these maps were very well done and detailed, while

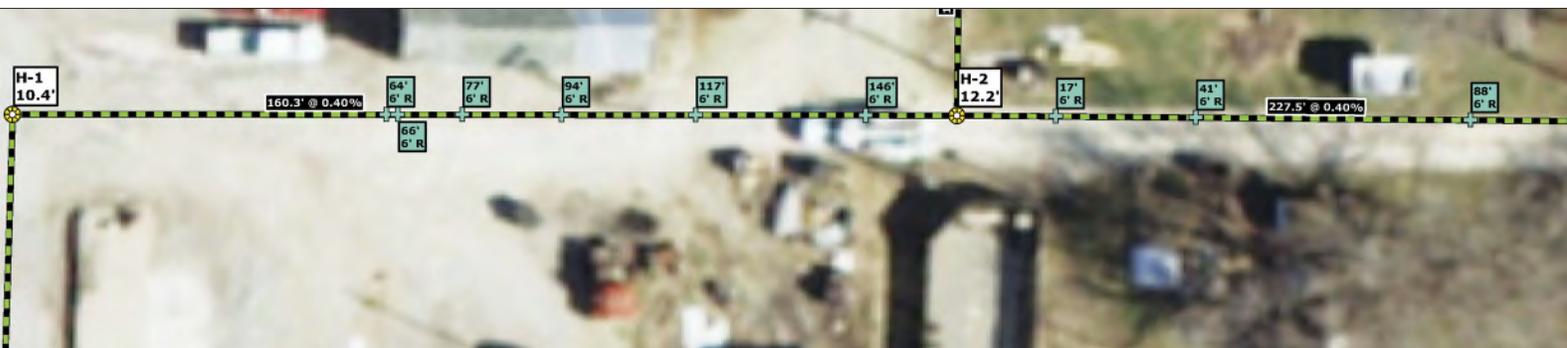
others were not. Some systems did not even receive the maps. The reasons for this can be attributed to the quality of the inspector on the project, or if the project even had an inspector. Systems that find themselves with poor as-builts or no as-builts should not expect to automatically have accurate maps if they hire KRWA or a mapping company to do GPS mapping of the system. It's a step in the right direction, but in order to receive the desired result, the people with the most knowledge of the system need to be involved. KRWA will

collect an accurate GPS location on every known point in a system. These include meters, valves, fire hydrants, and known points on lines as well. As most people in the water

industry can attest to, where some water lines were installed between valves is anybody's guess, but I would want the person with the most educated guess making the guess if they were my maps. If that guess ends

Having better maps by itself is great for any utility, but having the mapping data in a shapefile format or a geodatabase can bring the utility so many more benefits.

The graphic below shows a segment of the wastewater collection system in Fairview, Kansas in Brown County. The city incorporated useful information into the GPS mapping of the system. For example, the valve in upper left is No. H-1 and is 10.4 feet deep. the "160.3' @ 0.40%" indicates the distance and grade. The crosses indicated service taps. The measurements are, e.g., 64 feet from the valve, etc.



Steve Euler, Manager, Morris County RWD 1 comments on KRWA GPS mapping . . .

"Morris County RWD No. 1 had KRWA come and gps our system beginning in 2007. We collected data in three phases to spread the cost out. Since then the board of directors has purchased a Trimble unit so we can collect our own data. I do this as we make new installations and repair leaks so we are continually updating our maps. KRWA processes the data for us and updates the maps. We use the data almost every day. Our district has approximately 400 miles of pipeline in four counties and the data saves many miles for locates. By having the data on the computer it is very easy to search addresses for locates and it saves a lot of miles driving to the sites for every locate. The data also allows us to email line locations to our engineer for service reviews, or to county engineers for road projects, etc. When our local phone company did upgrades it was easy to send maps for their design to avoid our water lines where possible. Accessing the data with my phone is also very helpful when in the field doing locates."

up being wrong because another utility hits it or something, it can be looked at positively because the maps can always be updated.

Having better maps by itself is great for any utility, but having the mapping data in a shapefile format or a geodatabase can bring the utility so many more benefits. When Kansas One Call, Fire Protection Insurance Specialists, FEMA or engineering firms need the data for different studies, it's as simple as an email to provide the information. FEMA follows strict protocol when providing financial aid when the agency is involved after natural disasters or other catastrophic events that have damaged utility infrastructure. They follow strict protocol when providing financial aid. A utility needs to be able to provide data that shows what was damaged, how much it is worth, and more. Having this data in a GIS saves much time and effort when going through such circumstances, and enables the system to recoup as much money as possible.

KRWA continues to work on many municipal and rural water district mapping projects. If any system has an interest or questions about the process, give KRWA at call at 785-336-3760 or email me at mark@krwa.net.

Mark Thomas has been a GIS Mapping Tech since September 2006. Mark has a bachelors degree in geography from Kansas State University and has specialized studies in ESRI's ArcView and ArcPad software.



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