

SYSTEM MAPS ARE THEY REALLY THAT IMPORTANT?

By now all water systems should have received the new chapter 21 and 22 regulations. Chapter 21 pertains to Transient Water Systems and Chapter 22 pertains to Community and Non-transient Non-Community Water Systems. Chapter 22-007 Item 2 requires that all Community and Non-Transient Non Community Water Systems must “maintain an up-to-date map of the distribution system showing locations, sizes and materials of underground lines and appurtenances”.

Many of the operators that have been at the same system for years, consider this regulation to be a complete waste of valuable time. Over the years they know where every valve and water main is. Not to mention every gas line, electrical line, telephone line and fiber optic line. Chances are they have had most of their water mains dug up for some reason or another over the years.

The problems start when the new operator steps in to take on the responsibility of operating the water system. No maps. All the maps are locked up in the “old” operators head. If you are a new operator without a system map or a map that is out dated, I would recommend to draw up a map of your town, find the “old” operator, if he or she is willing, and drive around town and map everything they can remember.

I have worked with a few systems that have hired their engineers to put their maps onto a computer program. Average cost for a small Village is somewhere around \$2,500 to \$3,500. Normally the firm will use any and all system maps available to draw up a rough draft. They will then have the operator verify the accuracy of the map. The map is sent back to the firm for the appropriate changes and a new map is produced.

The accuracy part is where the “old” operator can really be a great resource. They may know of some valves that are not on this rough draft, or know of some that now longer exist. Nebraska Rural Water Circuit Riders may also be of some help. We all have valve box locaters and line locaters to help verify if in fact the map is accurate.

Line sizes can be determined by the number of turns on a valve. Normally a valve will turn three times the diameter plus maybe a couple

extra. For example a 4" main should turn 12 turns plus maybe a couple extra for a total of 13 or 14 turns. A 6" should turn 18 turns plus maybe a couple extra for a total of 19 or 20 turns.

All plastic water lines should be mapped and have tracer wire run with it as it is being installed. If it is installed without tracer wire the only way to find it is with a backhoe.

The best part of a computer-generated map is if there are any changes made to the system it can easily be up dated and a new map printed.