

Do You Have a Good Main Flushing Program?

By Randy Hellbusch, Circuit Rider

All of us involved in the drinking water industry want to deliver the best possible product to our customers. We also all work with a limited budget and money constraints. One of the most economical ways to improve water quality in a distribution system is by having a good flushing program. Things that cause buildup of slime and deposits inside of pipes can be cured with a good flushing program. Flushing is one of the best and most economical methods of eliminating taste and odor problems as well as increasing pipe flows throughout the system. It is also beneficial if you operate a chlorinated system by reducing chlorine demand and improving residuals.

There are basically two methods of flushing water mains: conventional & unidirectional. Conventional flushing is when hydrants are opened in a manner that allows for water to flow in all directions to the hydrant. This method does not usually create high flows and velocity is normally 2 to 2.5 ft. per second as water is coming from various directions.

Unidirectional flushing creates maximum flow to the hydrant by allowing the water to only travel in a certain section of main. 5 to 7 ft. per second velocity can be achieved with unidirectional flushing. This creates a scouring effect within the pipe increasing the removal of slime and debris that build up over time. This is accomplished by closing valves strategically so that the hydrant is only being fed in one direction. The distance to be flushed should be kept to a maximum of 1500 ft. The volume of each flush is dependent on the length of pipe being flushed at a minimum of 2.5 x the volume of the pipe in question. This usually will take 15 to 30 minutes per flush. There are a few operational considerations before any hydrant flushing occurs.

1. Control the discharged water to avoid flooding of storm sewer and streets.
2. Notify the public of flushing dates, times and areas.
3. Keep records of any hydrant or valve issues during the process.
4. Traffic control is important for the safety of system operators as well as the public.

Hard to operate or inoperable valves are a big reason many operators shy away from unidirectional flushing. NeRWA has a WACHS hydraulic valve turner to assist with this process. Just call the office or any of the field staff if this is something you are interested in or if you have any questions about a main flushing program.