TUOLUMNE UTILITIES DISTRICT

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Tuolumne Utilities District (TUD)
Fact Sheet - Water Main Flushing Program

What is water main flushing?

Water main flushing moves water systematically through sections of a drinking water distribution system, creating a scouring action to clean the line. The increased flow rate scours the water pipe's inner walls and helps to remove build-up of naturally occurring debris and sediment. The water is discharged through select fire hydrants onto local roads or other surface areas.

- The process is critical to the overall maintenance of a distribution system and is one of the most important practices carried out by public drinking water systems to maintain high water quality, improve the carrying capacity of pipes, and ensure proper operation of distribution system components, such as hydrants and valves.
- Flushing the water main lines also ensures that fire hydrants are operational and allows the operator to assess the available water for firefighting purposes. Flushing at lower velocities can also be used to bring fresh water into a part of the distribution system where the water main ends or dead ends. Water main flushing is typically carried out through either conventional or unidirectional flushing (UDF). The type of flushing performed is based on the specific goals to be achieved within the distribution system.
    - o Conventional flushing consists of opening hydrants in targeted areas and discharging the water until any accumulations are removed and the water becomes clear. The water moves freely from all directions to an open hydrant. Since there is less flow in a given pipe, velocities may be too low to adequately clean, or scour, the pipes.
    - o UDF means that water mains are flushed systematically from areas closest to the source water to the outer edges of the water system. Certain valves are closed during UDF operations to minimize disturbance. Fire flow tests are not conducted during UDF because the closed valves alter the normal flow pattern and may skew results.
- Flushing may be done as an important part in maintaining adequate chlorine residuals in outer areas of a water distribution system

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Why is a flushing program important?

- Removes sediment- Loose sediment and other deposits may slowly build up on the inside of the water mains over time causing discolored water. Flushing at the appropriate velocities can remove these sediments and deposits and will improve taste, odor and color that may be problematic e.g. naturally occurring iron or manganese deposits in the distribution system may affect color.
- Reduces biofilm - Biofilm is a thin layer of microorganisms that can grow on the inside of the distribution piping, A proper scouring velocity must be achieved to effectively minimize biofilm.
- Maintains proper distribution system operation - Flushing requires the opening and closing of hydrants and valves to ensure that water moves through pipe segments for

effective cleaning. This operational practice also provides water operators with the opportunity to identify broken or inoperable valves and hydrants which is important to ensure that they will work properly in an emergency.

How will you be affected?

There may be a slight drop in pressure or noticeable discoloration of the water from the minerals and sediments that are being flushed out. During the flushing operation in your neighborhood, you will be able to see crews flushing the water mains through fire hydrants and ends of water main pipes commonly called blow-offs. Crews will usually direct the water being flushed into appropriate areas to avoid sediment erosion or localized pooling of water, but you may notice water on the street or roadway.

What about water pressure and safety?

Flushing may cause short-term pressure fluctuations; however, specific water pressure is required to be maintained within the system. If you experience little to no water pressure during flushing, you should contact TUD.

How long does it typically take to clean the water mains on each street?

Typically, it takes 30 minutes to 60 minutes to flush the water mains on each street.

What should I do if my water is discolored after flushing of water mains?

Water is often discolored after water main flushing, but this should not last long. In the event customers draw discolored water into the home, flush a cold tap for a few minutes, up to 15 minutes. As a precaution, prior to using hot water run the cold water tap to ensure discolored water is not drawn into the hot water tank.

Is water main cleaning a waste of water?

No, this is a normal and necessary part of maintaining a safe and reliable drinking water supply.

Still have questions and concerns?

Please call the TUD Customer Service department at 209-532-5536 so that someone may assist you.