

Fire hydrant flow testing and flushing – mutual partners

Flushing a distribution system is an important part in maintaining a water distribution system. Not only does the flushing remove loose sediment it also improves the quality of water in the system.

Almost every water system that does not have significant flow in pipelines will have problem areas in the distribution system. That's where flushing the system will improve water quality, chlorine residuals and remove objectionable taste and odor problems. However, if there are fire hydrants in the distribution system you can combine flushing with flow testing the hydrant.

When flushing the distribution system it is best to start closest to the source of water. This will be the tower, pump station, wells or treatment plant. Systematically move further away from the source, allowing enough time for the water from the first hydrant to move to the next hydrant. This approach may seem to be time consuming however, the benefits of doing it correctly far outweigh the expense of the lost water and man-hours needed to properly flush hydrants.

Benefits of a water main flushing program include:

- ◆ Making sure that the fire hydrant will function properly
- ◆ Remove sediment from the line
- ◆ Improve chlorine residuals
- ◆ Remove discolored water
- ◆ Helps remove taste and odor problems

Cost of flushing hydrants

It may cost \$50 or more to flush and/or flow test fire hydrants. These costs include, wages, cost of water that will be wasted, and equipment cost. If there are 20 fire hydrants in the system the cost could easily exceed \$1000. This is another reason to flow test the

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hydrants at the same time the flushing is taking place. You accomplish two tasks for the same cost.

What to look for

When flow testing or flushing there are items to keep in mind. When opening the hydrant make sure that the flow is not going to damage the yard or property where the water impacts the ground. There's no reason to have an upset homeowner because the water

system washed out a section of yard or drive.

Inspect the fire hydrant being operated. Are there any problems such as leaks, missing caps or other component? A fire department can have the best equipment around, but if there is no water available because the hydrant does not work, then they may well be fighting a losing battle.

Even though correctly flushing takes time, there is something else that can be accomplished at the same time. Whether the system conducts semi-annual or annual flushing, it's also a good time to exercise the mainline valves. There is an old saying: "If it's not broken, don't fix it." There should be another for hydrants and valves: "If they are broken, you can't use them."

Losing a home because the fire hydrant across the street doesn't work is not acceptable. Unless hydrants are operated regularly there is no way to guarantee they will work when needed.

Checklist when flushing water hydrants . . .

- ✓ Check for any visible or audible leaks
- ✓ Proper operation of the hydrant
- ✓ Amount of discolored water flushed (in minutes)
- ✓ Water pressure (static and residual)
- ✓ Chlorine residual (before and after flushing)
- ✓ Flow in gallons per minute (using pitot gauge or other measuring device)
- ✓ Drain-back functioning (after the hydrant is shut off, put hand over the opening to check for suction)

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