

Prevalence of Cross-Connections in Household Plumbing

A cross-connection is a connection between the drinking water plumbing system and any other source, which may contribute to the degradation of the quality of drinking water. Your local water company, health, and building and safety departments work hard to provide the safest water possible to your home. However, once this water enters your property, there are common problems that may arise due to improper changes in, or misuse of, your plumbing system.

Have you ever considered all of the places that you use water in your home? You may be surprised how many different ways that water can be used, and possibly misused. This article discusses a few of the uses of water that you might want to pay more attention to in order to protect the purity of the water you drink, cook with, or bath in. Let's look at a few examples.

Sinks, Tubs & Tanks. The faucets in your bathroom or kitchen must be located so that the end of the faucet is above the overflow level of the sink or tub. Fill lines to water troughs or tanks must also be physically separated, or "air gapped." If there is no air gap, then the contents of the sink, tub, or tank may be sucked or "backsiphoned: into the water line during a loss of water pressure.

Toilets. Toilets need water to flush the waste material into the sewer system. The water that flushes the toilet enters into the toilet tank from the small hose or pipe connected to the bottom of the toilet tank. It is essential that the float-valve (or anti-siphon ballcock) inside of the toilet tank is the correct type so that the contents of the toilet tank don't get back into the drinking water system in your house. The anti-siphon ballcock and refill tube must be above the water level in the tank.

Irrigation. Irrigation systems make watering of your lawn or garden much easier, but if not properly constructed, contaminants may backflow into your drinking water. Water pooling around sprinkler heads may be contaminated by chemicals, fertilizers, or animal waste. Backflow protection may be provided with atmospheric vacuum breakers (AVB), pressure vacuum breakers (PVB), Spill Resistant Pressure Vacuum Breaker (SVB), or reduced pressure principle assemblies (RP).

Hose Bibbs. Hose bibbs are part of everyday life. They allow us to hook up a garden hose to water the plants, wash the car, clean out the gutters, fill the swimming pool, etc. However, every time you connect a garden hose to a hose bibb, you are extending the end of the water line. To make sure that no harmful materials are drawn back into the garden hose, a vacuum breaker should be installed on each hose bibb. When the hose bibb is exposed to freezing conditions, make sure to use a self-draining, frost-proof vacuum breaker.

Boilers. Due to the pressure that may build up inside of a boiler, the pressure of the boiler water may exceed that of the water feeding the boiler. The boiler water (which may be chemically treated with poisonous anti-corrosion compounds, etc.) may be pushed, or backpressured, into the make-up water line. This chemically contaminated water may be forced back into your home's drinking water system, unless there is an appropriate backflow preventer that is designed for backpressure.

The Village of Fontana Municipal Code requires a physical inspection of each property where a cross-connection may exist as an effort to protect the drinking water system from contamination in the event of a backflow incident. To meet this requirement, the Department of Building & Zoning will begin scheduling cross-connection inspections with village property owners. If you would like to schedule an inspection immediately, please contact the Building Inspector at (262) 275-9769.