



## **IMPORTANT BACKFLOW/CROSS-CONNECTION CONTROL INFORMATION FOR LAWRENCE UTILITY CUSTOMERS**

If you are a Lawrence Utilities customer and your home or place of business has a required backflow device, you are responsible to have the device tested annually to ensure that it works properly. Indiana Administrative Code 8-10 (327 IAC 8-10 or "Rule 10") along with City of Lawrence Resolution No. 1, 1996 establish the rules under which the City's water utility is responsible to implement and maintain a cross-connection control program and to run a backflow device program, which includes requirements for proper installation and testing of backflow devices. In brief, all commercial facilities are required to have a Reduced Pressure Zone (RPZ) device on the domestic water line. A Double Detector Check Assembly (DDCA) is required on a fire line if the facility has a fire suppression system that is connected to the public water supply. Irrigation systems are required to have a Pressure Vacuum Breaker installed.

All these devices are required to be tested by a State-certified backflow device tester and copies of the test reports are required to be sent to the utility to ensure compliance with the law. The City of Lawrence sends out notification to all customers with backflow devices alerting them that the tests are due. Failure to submit the required testing certifications will result in the utility sending a qualified service technician out to perform the required test with the \$80.00 testing fee being applied to the customer's account. In addition, if it is discovered that a water service connection that has a required backflow device has been tampered with, by-passed or the device removed or otherwise defeated in its purpose, the property owner may face water service disconnection and fines. Finally, if a contamination event occurs and is traced back to a property or facility that has tampered with a required backflow device, the property owner may be liable for damages.

A customer does not have the option of calling the utility and saying they are not going to use their irrigation system in order to avoid having to have a backflow device tested. Similarly, a customer may not de-activate a fire suppression system in order to avoid backflow device testing requirements. If a system such as an irrigation system or fire suppression system is installed that requires a backflow device, the device MUST be tested annually. The only way to avoid the required testing is to physically disconnect and remove the system that requires the backflow device. With regard to fire suppression system rules and requirements with regard to disconnection of existing systems, please contact the City of Lawrence Fire Marshal at (317) 545-5566.

If you would like more information concerning backflow devices, cross-connection control measures or the City Utility's policies and procedures concerning cross-connection control and/or backflow device installation and testing requirements, please feel free to contact the Business Office at (317) 542-0511 and follow the prompts to speak with a customer service representative. A qualified and knowledgeable service representative will return your call. Alternatively, you may email Scott Salsbery at [ssalsbery@cityoflawrence.org](mailto:ssalsbery@cityoflawrence.org) for more information.

### **What is 'backflow'?**

Backflow means the reversal of water flow from its normal or intended direction of flow. Whenever a water utility connects a customer to the utility's distribution system, the intention is for the water to flow from the distribution system to the customer. However, the flow of water could be reversed from the customer back into the distribution system. If cross-connections exist within the customer's plumbing system when backflow occurs, then it is possible to contaminate the public water supply. There are two types of backflow -- backpressure backflow and back-siphonage.

### **What is backpressure backflow?**

Backpressure backflow occurs when the pressure of the non-potable system exceeds the positive pressure in the water distribution lines; that is, the water pressure within an establishment's plumbing system exceeds that of the water distribution system. For example, there is a potable water connection to a hot water boiler system that is not protected by an approved backflow preventer. If pressure in the boiler system increases to a point that it exceeds the pressure in the water distribution system a backflow from the boiler to the public water system may occur.

A downstream pressure that is greater than the potable water supply pressure causes backpressure backflow. Backpressure can result from an increase in downstream pressure, a reduction in the potable water supply pressure or a combination of both. Boiler pumps, pressure pumps or temperature increases in boilers can create increases

in downstream pressure. Reductions in potable water supply pressure occur whenever the amount of water being used exceeds the amount of water being supplied, such as during water line flushing, firefighting or breaks in water mains.

### **What is back-siphonage?**

Back-siphonage occurs when there is a partial vacuum (negative pressure) in a water supply system, which draws the water from a contaminated source into a potable water supply. The water pressure within the distribution system falls below that of the plumbing system it is supplying. The effect is similar to siphoning or drinking water through a straw. For example, during a large fire, a pump is connected to a hydrant. High flows pumped out of the distribution system can result in significantly reduced water pressure around the withdrawal point. A partial vacuum has been created in the system, causing suction of contaminated water into the potable water system. During such conditions, it is possible for water to be withdrawn from non-potable sources located near the fire -- for example, a mop sink with a hose that lays in the bottom of the sink when not in use, air-conditioning systems, water tanks, boilers, fertilizer tanks and washing machines -- into buildings located near a fire. The same conditions can be caused by a water main break.

Garden hoses, toilets or similar devices create most household cross-connections. Under certain conditions, the flow in household water lines can reverse and siphon contaminates into the water supply. A toilet installed incorrectly without a "plumbing-code approved" toilet ballcock (air gap) will allow contaminated water to backflow to other water outlets in your house, including the kitchen sink. A weed or fertilizer sprayer that is attached to a garden hose may also allow the chemicals in the container to be siphoned back into the home or businesses plumbing lines, where it could inadvertently be ingested.

### **What is a Backflow Preventer?**

A backflow preventer is a method or mechanical device to prevent backflow. The basic method of preventing backflow is an air gap, which either eliminates a cross-connection or provides a barrier to backflow. Mechanical backflow preventers are devices that provide a physical barrier to backflow. There are four devices commonly used -- the reduced pressure principle assembly (RPZ), the double detector check valve assembly (DDCA), the pressure vacuum breaker (PVB) and the atmospheric vacuum breaker (AVB). All of these devices require annual testing and need to be properly installed and maintained.

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Thank you,

Lawrence Utilities