

# City of Oak Park

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Questions concerning cross connection control and backflow prevention may be directed to the City of Oak Park at (248) 691-7450, or the Michigan Department of Environmental Quality (DEQ), Water Supply at (517) 335-9216, or the Michigan Department of Labor, Plumbing Division at (517) 322-1804.



Compliments of:

City of Oak Park

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City of Oak Park

DRINKING WATER:  
IT'S YOUR  
RESPONSIBILITY  
TOO!

*"What do you mean I might Be  
Contaminating the Water?"*



Tel: (248) 691-7450

# WHAT IS A CROSS CONNECTION?

It's true! You can pollute your own drinking water without even realizing it. Elimination of cross connections will help protect the water we drink. The Safe Drinking Water Act of 1974 established national standards for drinking water. The State and Local Governments are responsible for the enforcement of these standards, and the supervision of the public water supply. It is the responsibility of Local Government to deliver safe drinking water to your tap.

## What is a cross connection?

A cross connection is a direct or potential arrangement of drinking water piping that is or can be connected to a questionable source. An example is the common garden hose attached to a sill cock with the end of the hose lying in a cesspool or submerged in a tub full of detergent. Other examples are supply lines connected to boilers, process equipment, or bottom-fed tanks.

## What is back-siphonage?

Back-siphonage is the reversal of normal flow in a system caused by a negative pressure (vacuum or partial vacuum) in the supply piping.

## What factors can cause back-siphonage?

Back-siphonage can be created when there is stoppage of the water supply due to repairs or breaks in the city main, or increased demand at a location such as fire fighting.

## What is backpressure backflow?

Backpressure backflow is the reversal of normal flow in the system due to downstream pressure greater than the supply pressure.



## What factors can cause a backpressure backflow condition?

Backpressure backflow can occur at any pressurized system such as boilers, elevated tanks, or recirculating systems. For example, a boiler operating under 15-20 lbs pressure would backflow into the potable water anytime the supply is below 15-20 lbs. The simple act of flushing a toilet may cause this to occur.

## What is a cross connection control program?

This is a combined cooperative effort between plumbing and health officials, municipalities, and property owners to establish and administer guidelines for controlling cross connections and implementing means to ensure their enforcement so that the public drinking water supply will be protected both in the city main and within buildings.

## What is the most common form of a cross connection?

Ironically, the ordinary garden hose is the most common offender as it can be easily connected to the drinking water supply and used for a variety of potentially dangerous applications.

## What is the difference between pollution and contamination?

Pollution of the water supply does not constitute an actual health hazard, although the quality of the water is impaired with respect to taste, odor or utility. Contamination of the water supply, however, does constitute an actual health hazard. The consumer of contaminated water is subjected to potentially lethal water borne disease or illness.

## What is the difference between a toxic and non-toxic substance?

Toxic substances are any liquid, solid, or gas which when introduced into the water supply creates, or may create a danger to the health and well-being of the consumer. An example is treated boiler water.

A non-toxic substance is any substance that may create a non-health hazard, is a nuisance or is aesthetically objectionable. Non-toxic substances *pollute* potable water supplies. Toxic substances, however, *contaminate* other-

wise potable water. There are five products that can be used to correct cross connection, depending on the type of connection and degree of hazard:

1. Air Gap
2. Atmospheric Vacuum Breakers (also includes hose connection vacuum breakers)
3. Pressure Type Vacuum Breakers
4. Double Check Valve Assembly
5. Reduced Pressure Principle Backflow Preventers

## What is meant by "degree of hazard"?

This depends on the determination of whether the substance in the non-potable system is toxic (health hazard) or non-toxic (non-health hazard).

## Are there regulations regarding cross connections?

Yes. See the State of Michigan Department of Public Health, Administrative Rules for Michigan's Safe Drinking Water Act, Act 399, P.A. 1976, Part 14, entitled Cross Connection (R 325.11404. MIOSHA Health Rule Sanitation Standard 4201, Chapter IV General Work Place Requirements, Part II Section 2.

OSHA regulations also prohibit cross connection unless it is properly protected with an approved backflow preventer. These requirements are also covered by the Michigan Building and Plumbing Code.

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