## Additional Backflow Device- Specific Requirements

**Lawn Irrigation Atmospheric Vacuum Breaker**
Shall not be installed when subjected to continuous pressure. Downstream shut off valves are not permitted

**Lawn irrigation systems** with chemicals introduced into the system's drinking water supply via installed product tanks and/or pumping systems shall be protected against backflow by a reduced pressure principle backflow preventer (RPZ) tested pursuant to ASSE 1013 or other approved testing in accordance with the Michigan Residential Code.

**The potable supply to a boiler** System with 15 psi or less untreated must be equipped with a backflow preventer with an intermediate atmospheric vent compliant with ASSE 1012 or other approved testing.

For boiler with greater than 15 psi or with treatment chemicals the system must be equipped with a reduced pressure principle backflow preventer (RPZ).

**The potable water supply to a solar energy system** must be protected with a backflow preventer with an intermediate atmospheric vent compliant with ASSE 1012 or other approved testing. Where chemicals are used, the system must be protected with a reduced pressure principle backflow preventer (RPZ) tested pursuant to ASSE 1013 or other approved testing.

**Water supplies to pool fills, fire sprinkler systems and water-activated sump pumps** must also be protected against backflow and back pressure.

## Who may test, repair and install backflow assemblies?

Pursuant to State of Michigan Law – Public Act 733 (State Plumbing Act) of 2002, only Licensed Plumbing Contractors may perform work on a commercial, industrial, or residential plumbing system. Act 733 states that backflow preventers are a part of the plumbing systems, and that only Licensed Plumbers may perform work on them.

You must obtain the services of a certified backflow device tester to perform backflow assembly testing, installations, relocations and repairs. If a back-flow preventer is to be replaced or installed, a Plumbing Permit must be first obtained from the Charlevoix County Building Dept.

## Why is testing required?

Backflow assemblies are mechanical devices and are subject to failure from wear and tear, corrosion, freezing, water conditions, and misuse. Testing ensures that the assemblies are operating as required to prevent backflow of contaminated water into the public drinking water supply.

## How much does testing cost?

Residents should contact a licensed backflow tester to obtain pricing to test their residential backflow devices. Cost of testing varies between contractors and by the number of backflow devices within the plumbing system.

## For Additional Information Contact


Performance Engineers, Inc.
Civil / Structural Engineering
406 Petoskey Avenue, Charlevoix, MI 49720
www.performanceeng.com Phone: 231/547-2121


# Charlevoix Township Water Department

# Residential Cross Connection Control Program

**A new MDEQ Mandate requires all testable backflow devices for all residential properties to be tested. All device testing, repair, relocation and replacement must be completed by a**

**certified backflow testing contractor**

**at the resident's expense.**

## FREQUENTLY ASKED QUESTIONS

*Charlevoix Township*

# All testing must be performed by a ASSE 5110 licensed tester

## What is a Cross Connection?

A Cross Connection is any arrangement of piping on a building's plumbing system that could result in backflow of contaminants into the public drinking water supply system. A common example is a garden hose attached to an outdoor hose faucet with the end of the hose lying in a mud puddle. Other examples are hoses attached to a laundry tub with the end of the hose submerged in a tub full of detergent, supply lines connected to bottom-fed tanks, and supply lines connected to boilers.

## What is backflow?

In Cross Connection terms, a backflow refers to a reversal of flow from a building's plumbing system back into the public drinking water supply system. A backflow may occur when there is a pressure drop in the public drinking water supply system from a water main break or other failure. A backflow may also occur when a plumbing fixture such as a boiler or pump generates more pressure than the public supply system and pushes water back into the public drinking water supply system.

## What are common causes of backflow contamination?

Irrigation systems may contain pesticides, herbicides, and biological organisms such as bacteria and worms, animal droppings, and other contaminants.

Garden hoses may be submerged in swimming pools, mud puddles, utility sinks, buckets, etc. and can act as a siphon hose.

Boilers create back pressure that pushes contaminated water back into the water supply. Boiler tanks can contain bacteria and mold.

## Responsibilities

The Charlevoix Township Water Department is the entity charged with providing safe drinking water to Township residents and businesses. State and Federal Laws (Safe Drinking Water Acts) require that the Township protect the public water supply to the customer's tap. The Plumbing Code, Michigan Residential Code, and the Township Code of Ordinances also require that the Township verify that cross connections on private plumbing systems do not pose a contamination risk to the public water supply through the enforcement of the Michigan Department of Environmental Quality (MDEQ) Laws and Rules for Cross Connection Control.

As part of the cross connection control program, the Water Department will be performing inspections of residential, commercial, and industrial cross connections to ensure that backflow prevention devices are installed on plumbing systems. This may include testable and non-testable devices. Testable devices must be tested.

Consumers also share in the responsibility for protecting the water supply by properly maintaining their plumbing systems in a safe condition.

**Due to the recent MDEQ requirements for all residential properties to be included in a Township's Cross Connection Program, the Township shall require that all testable backflow devices be tested every 3 years.**

**This shall require a licensed and approved ASSE 5110 Certified Backflow device tester to access the property to perform testing on, and repair or replace, if necessary, all testable backflow assemblies at the resident's expense.**

## Typical Testable Backflow Device

**Pressure Vacuum Breaker (PVB) installed in Lawn Irrigation System under continuous pressure**

This backflow prevention device is common to most irrigation systems and is typically installed on the outside of the building or residence. The device is designed to prevent any irrigation system contaminants such as pesticides or herbicides from back flowing into the public water supply system. An approved PVB is required on **all** irrigation systems except under circumstances when specific exceptions are met.


## Typical Non-Testable Backflow Device

**Hose Bib Vacuum Breaker**

This backflow prevention device is common to most hose bib systems and is an effective way of preventing contaminants from back flowing through a garden hose and into the public water supply system. An approved Hose Bib Vacuum Breaker is required on **all** hose bibs. Various types of devices are commercially available such as frost free and anti-siphon.