

CROSS CONNECTION CONTROL PROGRAM FOR CHARLEVOIX TOWNSHIP WATER SYSTEMS

I. Introduction

In accordance to the requirements set forth by the Michigan Department of Environmental Quality (MDEQ), the Township of Charlevoix has officially adopted the state of Michigan cross connection rules to protect the public water supply system. A cross connection is defined as a connection or arrangement of piping or appurtenances through which a backflow could occur. Backflow is defined as the undesirable reversal of flow of water of questionable quality, wastes or other contaminants into a public water supply. The purpose of this program is to avoid contamination of the public water supply by preventing and eliminating cross connections. It is the Township of Charlevoix's intent to carry out a comprehensive and effective cross connection control program (CCCP) to ensure public health is protected and the requirements of the Michigan Safe Drinking Water Act are complied with.

II. Authority

The authority to carry out and enforce the local CCCP is provided from local ordinance 12.2.A, the Michigan Safe Drinking Water Act (Act 399), the MDEQ, Water Bureau Cross Connection Rules Manual, and the Michigan Plumbing Code.

III. Program Approach

The objectives of this program will be met primarily by:

- Routinely inspecting water customers for cross connections or potential cross connections.
- Requiring water customers to test backflow prevention assemblies.
- Maintaining cross connection control records.
- Actively enforcing violations of the program.
- Providing public education.
- Reporting the status of the program to the MDEQ.

The Township of Charlevoix shall ensure that there are adequate personnel and resources to carryout the necessary field and administrative requirements for this program. The Township of Charlevoix adopts the MDEQ, Water Bureau Cross Connection Rules Manual as a guide to prevent and eliminate cross connections.

IV. Inspections

The water connections and plumbing systems of all water customers or accounts shall be initially inspected for the presence of cross connections. As a result of the initial inspection, a detailed record of each account shall be established (see Section VI). A representative of the water utility or their designated agent shall be responsible for inspections. Individuals responsible for conducting inspections shall have obtained sufficient training on cross connection rules, identification, and corrective actions.

Inspections shall consist of entering a facility from the point where water service enters the facility (usually the meter) and tracing the piping to each end point of use. Using an inspection forms approved by the Township, the inspector shall identify and note the location and nature of any direct and potential cross connections, location and details of

backflow prevention devices, and other pertinent information. Inspectors having proper identification, shall be permitted to enter the building/premises at reasonable times for the purpose of cross connection inspections. If the inspector is refused proper access or if customer plumbing is untraceable, the Township of Charlevoix will assume a cross connection is present and take the necessary action to ensure the public water supply is protected.

The highest priority for inspections shall be placed on facilities that pose a high degree of hazard, that have a high probability that back flow will occur, or are known/suspected to have cross connections.

Once initial inspections of all accounts are complete, then a re-inspection frequency shall be determined for each account based on the degree of hazard and potential for backflow. The MDEQ Cross Connection Rules Manual will be a guide in classifying the degree of hazard of each account. However, in general, situations in which backflow could cause illness or death shall be considered high hazard. Accounts that pose a high hazard or have a high potential for back flow to occur, must be re-inspected at least once per year. All other accounts must be re-inspected once every 1-10 years based on the degree of risk. Other factors such as new construction, water quality complaints, or anomalies in customer billing, may prompt an immediate re-inspection. After initial cross connection inspections are complete, a comprehensive list or inventory of all backflow prevention devices shall be on record including all pertinent data.

V. Testing Backflow Prevention Assemblies

When all initial inspections have been completed, a comprehensive list of backflow preventers installed on customer plumbing systems will be on record. The backflow preventers that are testable assemblies shall be placed on a routine testing schedule. Based on the associated degree of hazard and probability of backflow, each assembly will be assigned a testing frequency. Assemblies in place on high hazard connections must be tested annually. All other accounts must be tested once every 3 years. In addition, all assemblies must be tested immediately following installation and repair. Only individuals holding an active ASSE 5110 Certification (backflow prevention assembly testing) shall perform such testing.

Upon notice from the Township of Charlevoix, it shall be the responsibility of the water customer to arrange for the assembly to be tested and submit the completed test form. Following the initial cross connection inspections and subsequent classification of accounts (e.g. assigning a degree of hazard), assembly testing notices shall be sent to customers each year. The notices shall be sent out in a timely manner in order to provide adequate time for customers to comply, and the timing will consider seasonal assemblies.

These notices will:

- Clearly identify the assembly requiring testing (size, make, model, location, etc.)
- Stipulate the date by which the assembly must be tested.
- Indicate that tests must be completed by an ASSE certified tester.
- Enclose a standard test form provided by the Township.

When assembly testing reports are received by the utility, they will be checked for the following:

- All the necessary information was provided
- Name and certification number of the tester is provided
- The test results appear valid

- The assembly tested matches the assembly requiring testing (Make, Model, etc.)
- The assembly is ASSE certified

Cross connection control program staff will follow up with owner or tester on questionable test forms. A customer may be asked to have an assembly re-tested if the original test results do not appear valid. Test forms must be received and kept on record for each required test.

VI. Record Keeping

A system of cross connection record keeping shall be maintained.

All cross connections account information must be in the records including:

- Address and location
- Owner name and contact information
- List of testable assemblies
- Description of other cross connections within the facility
 - Air gaps
 - Non-testable assemblies
- Degree of hazard classification and basis
- Required re-inspection frequency
- Photos or sketches if available

All testable assemblies must be in the records including:

- Location of the assembly
- Name and contact information of assembly owner
- Make, model, and size of assembly
- ASSE standard number
- Degree of hazard classification
- Required testing frequency and basis
- Seasonal or permanent status

Tracking changes in water use or tracking new customers is a critical part of the cross connection program. The Township of Charlevoix shall make every attempt to prevent/eliminate cross connections at installation to ensure future compliance. An effort shall be made to cooperate and communicate with the local plumbing code inspector to better accomplish this goal.

Standard letter, form, and report templates may be used to simplify the program requirements including:

- Inspection forms
- Assembly testing forms
- Inspection and/or assembly testing notification letters
- Non compliance letters
- Water service termination notice
- Hydrant use authorization forms

Copies of the written cross connection control program, ordinance, and DEQ approval letter should be kept on file. Copies of the MDEQ annual reports shall be kept for a minimum of 10 years.

VII. Enforcement

To protect public health, water customers found to be in violation of the cross connection rules will be brought into compliance in a timely manner or lose their privilege to be connected to the public water system. To properly enforce these rules the Township of Charlevoix's ordinance provides authority to inspect facilities, terminate water service, and assess fines.

Following an inspection if a customer is found to be in non-compliance a notice of non-compliance will be sent. The timeframe to complete the necessary corrective actions is at the discretion of the utility and will be based primarily on the degree of risk posed by the violation but should also consider the complexity/cost of the necessary corrective actions. Cross connections that pose an imminent and extreme hazard shall be disconnected immediately and so maintained until proper protection is in place. Cross connections that do not pose an extreme hazard are generally expected to be eliminated within 30-60 days. The necessary corrective action and deadline shall be described in the non-compliance notice to the customer.

Failure to perform a required backflow prevention assembly test or pass a test constitutes a cross connection and must be corrected.

If a water shut off is necessary to protect the public water system, the local health department, fire department, local law enforcement, and Township Supervision may need to be notified.

VIII. Public Education

The cross connection control program staff must have a good understanding of the program. The Township of Charlevoix shall ensure their cross connection control staff receives proper in-the-field training as well as classroom education focusing on terminology, back flow prevention devices, regulations, and hydraulic concepts. In addition, cross connection control staff will be encouraged to receive continuing education to be made aware of new backflow prevention devices, regulation changes (i.e. plumbing code updates), new water use devices that pose cross connection concerns, etc.

Furthermore, attempts to educate the public about cross connections will be made by distributing pamphlets on common residential cross connections, providing onsite education of facility management and maintenance staff during routine inspections, speaking at public meetings, providing educational links on The Township of Charlevoix website, or posting newspaper announcements.

IX. Annual Report

Part 14 of the Michigan Safe Drinking Water Act requires that each community report the status of their program to the MDEQ annually. The report summarizes testing, inspection, and corrective action efforts. Cross connection records shall be on file to document each number on the report. The annual report form shall be filled out completely and submitted by the deadline. A narrative description shall be included explaining any unusual numbers or significant events such as:

- Greatly expanded/contracted number of cross connection accounts
- Status of accounts not currently in compliance