

**CHAPTER 26
CROSS-CONNECTION CONTROL RULES AND REGULATIONS**

26.01	Cross-Connection Control General Policy
26.02	Definitions
26.03	Water System
26.04	Cross-Connection Prohibited
26.05	Survey and Investigations
26.06	Where Protection is Required

26.01 CROSS-CONNECTION CONTROL GENERAL POLICY

A. The purpose of these rules and regulations is:

1. To protect the public water supply system from contaminant or pollution by isolating within the customer's water system contaminants or pollutants which could backflow through the service connection into the public water supply system.
2. To promote the elimination or control of existing cross-connections, actual or potential, between the public or consumer's potable water system and non-potable water systems, plumbing fixtures and sources or systems containing substance of unknown or questionable safety.
3. To provide for the maintenance of a continuing program of cross-connection control which will prevent the contamination or pollution of the public and consumer's potable water systems.

B. APPLICATION: These rule and regulations shall apply to all premises served by the public potable water supply system of the City.

C. POLICY: The owner or official custodian shall be responsible for protection of the public water supply system from contamination due to backflow or back-siphonage of contaminants through the customer's water service connection. If, in the judgment of the Public Works Coordinator or his authorized representative, an approved backflow prevention device is necessary for the safety of the public water supply device, the Public Works Coordinator shall give notice to the consumer to install such approved backflow prevention device at each service connection to the premises. The consumer shall immediately install such approved device or devices at his own expense. Failure, refusal or inability on the part of the consumer to install such device or devices immediately shall constitute grounds for discontinuing water service to the premises until such device or devices have been installed. The consumer shall retain records of installation, maintenance, testing and repair as required in Section 26.05-D-4 for a period of at least five years. The Public Works Coordinator may require the consumer to submit a cross-connection inspection report to the Water Department to assist in determining whether or not service line protection will be required. All cross-connection inspections shall be conducted by a Cross-Connection Control Device Inspector certified by the IEPA.

26.02 DEFINITIONS

In addition to the definitions found in Appendix A of this Code, the definitions contained in this Chapter 26 are defined as follows:

Approved: Backflow prevention devices or methods approved by the Research Foundation for Cross-Connection Control of the University of Southern California, Association of State Sanitary Engineers, American Water Works Association, American National Standards Institute or certified by the National Sanitation Foundation.

Auxiliary Water System: Any water source or system on or available to the premises other than the public water supply system and includes the water supplied by the system. These auxiliary waters may include water from another purveyor's public water supply system; or water from a source such as wells, lakes or streams; or process fluids; or used water. These waters may be polluted or contaminated or objectionable or constitute a water source or system over which the water purveyor does not have control.

Backflow: The flow of water or other liquids, mixtures or substances into the distribution pipes of a potable water system from any source other than the intended source of the potable water supply.

Backflow Prevention Device: Any device, method or type of construction intended to prevent backflow into a potable water system. All devices used for backflow prevention in Illinois must meet the standards of the Illinois Plumbing Code and the IEPA.

CCDI: The Cross-Connection Control Device Inspector approved by the City and the IEPA.

Consumer or Customer: The owner, official custodian or person in control of any premises supplied by or in any manner connected to a public water system.

Consumer's Water System: Any water system located on the customer's premises. A building plumbing system is considered to be a customer's water system.

Contamination: An impairment of the quality of the water by entrance of any substance to a degree which could create a health hazard.

Coordinator: The Public Works Coordinator or the authorized representative.

Cross-Connection: Any physical connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other a substance of unknown or questionable safety or quality, whereby there may be a flow from one system into the other.

Direct cross-connection means a cross-connection formed when a water system is physically joined to a source of unknown or unsafe substance.

Indirect cross-connection means a cross-connection through which an unknown substance can be forced, drawn by vacuum or otherwise introduced into a safe potable water system.

Double Check Valve Assembly: An assembly composed of single, independently acting check valves approved under ASSE Standard 1015. A double check valve assembly must include tight shutoff valves located at each end of the assembly and suitable connections for testing the water-tightness of each check valve.

Fixed Property Air Gap: The unobstructed vertical distance through the free atmosphere between the water discharge point and the flood level rim of the receptacle.

Health Hazard: Any condition, device or practice in a water system or its operation resulting from a real or potential damage to the health and well-being of consumers. The word "severe" as used to

qualify "health hazard" means a hazard to the health of the user that could be expected to result in death or significant reduction in the quality of life.

Inspection: A plumbing inspection to examine carefully and critically all materials, fixtures, piping and appurtenances, appliances and installations of a plumbing system for compliance with requirements of the Illinois Plumbing Code, 77 Ill. Adm. Code 890.

Non-Potable Water: Water not safe for drinking, personal or culinary use as determined by the requirements of 35 Ill. Adm. Code 604.

Plumbing: The actual installation, repair, maintenance, alteration or extension of a plumbing system by any person. Plumbing includes all piping, fixtures, appurtenances and appliances for a supply of water for all purposes, including without limitation lawn sprinkler systems, from the source of a private water supply on the premises or from the main in the street, alley or at the curb to, within and about any building or buildings where a person or persons live, work or assemble. Plumbing includes all piping, from discharge of pumping units to and including pressure tanks in water supply systems. Plumbing includes all piping, fixtures, appurtenances and appliances for a building drain and a sanitary drainage and related ventilation system of any building or buildings where a person or persons live, work or assemble from the point of connection of such building drain to the building sewer or private sewage disposal system five feet beyond the foundation walls.

Pollution: The presence of any foreign substance (organic, inorganic, radiological or biological) in water that tends to degrade its quality so as to constitute a hazard or impair the usefulness of the water.

Potable Water: Water which meets the requirements of 35 Ill. Adm. Code 604 for drinking, culinary and domestic purposes.

Potential Cross-Connection: A fixture or appurtenance with threaded hose connection, tapered spout or other connection which would facilitate extension of the water supply line beyond its legal termination point.

Process Fluid(s): Any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, pollutional or system hazard if introduced into the public or a consumer's potable water system. This includes but is not limited to:

1. Polluted or contaminated waters;
2. Process waters;
3. Used waters originating from the public water supply system which may have deteriorated in sanitary quality;
4. Cooling waters;
5. Questionable or contaminated natural waters taken from wells, lakes, streams or irrigation systems;
6. Chemicals in solution or suspension; and
7. Oils, gases, acids, alkalis and other liquid and gaseous fluids used in industrial or other processes, or for fire fighting purposes.

Public Water Supply: All mains, pipes and structures through which water is obtained and distributed to the public, including wells and well structures, intakes and cribs, pumping stations, treatment plants, reservoirs, storage tanks and appurtenances, collectively or severally, actually used or intended for use for the purpose of furnishing water for drinking or general domestic use and which serve at least 15 service connections or which regularly serve at least 25 persons at least 60 days per year. A public water supply is either a "community water supply" or a "non-community water supply."

Reduced Pressure Principle Backflow Prevention Device: A device containing a minimum of two independently acting check valves together with an automatically operated pressure differential relief valve located between the two check valves and approved under ASSE Standard 1013. During normal flow and at the cessation of normal flow, the pressure between these two checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, shall operate to maintain the pressure between the check valve at less than the supply pressure. The unit must include tightly closing shutoff valves located at each end of the device, and each device shall be fitted with properly located test cocks.

Service Connection: The opening, including all fittings and appurtenances, at the water main through which water is supplied to the user.

Survey: The collection of information pertaining to a customer's piping system regarding the location of all connections to the public water supply system and must include the location, type and most recent inspection and testing date of all cross-connection control devices and methods located within the customer's piping system. The survey must be in written form, and should not be an actual plumbing inspection.

System Hazard: A condition through which an aesthetically objectionable or degrading material not dangerous to health may enter the public water supply system or a consumer's potable water system.

Used Water: Any water supplied by a public water supply system to a consumer's water system after it has passed through the service connection and is no longer under the control of the water supply official custodian.

Water Purveyor: The owner or official custodian of a public water system.

26.03 WATER SYSTEM

A. The water system shall be considered as made up of two parts: The public water supply and the consumer's water system.

B. The public water supply system shall consist of the source facilities and the distribution system, and shall include all those facilities of the potable water system under the control of the Public Works Coordinator up to the point where the consumer's water system begins.

1. The source shall include all components of the facilities utilized in the production, treatment, storage and delivery of water to the public water supply distribution system.
2. The public water supply distribution system shall include the network of conduits used to deliver water from the source to the consumer's water system.

C. The consumer's water system shall include all parts of the facilities beyond the service connection used to convey water from the public water supply distribution system to points of use.

26.04 CROSS-CONNECTION PROHIBITED

A. Connections between potable water systems and other systems or equipment containing water or other substances of unknown or questionable quality are prohibited except when and where approved cross-connection control devices or methods are installed, tested and maintained to insure proper operation on a continuing basis.

B. PROHIBITIONS:

1. No physical connection shall be permitted between the potable portion of a supply and any other water supply not of equal or better bacteriological and chemical quality as determined by inspection and analysis by the Agency.
2. There shall be no arrangement or connection by which an unsafe substance may enter a supply.

26.05 SURVEY AND INVESTIGATIONS

A. The consumer's premises shall be open at all reasonable times to the CCCDI for the inspection of the presence or absence of cross-connections within the consumer's premises, and testing, repair and maintenance of cross-connection control devices within the consumer's premises.

B. On request by the Public Works Coordinator, the consumer shall furnish information regarding the piping system or systems or water use within the customer's premises. The consumer's premises shall be open at all reasonable times to the Public Works Coordinator for the verification of information submitted by the consumer to the public water supply custodian regarding cross-connection inspection results.

C. It shall be the responsibility of the water consumer to arrange periodic surveys of water use practices on his premises to determine whether there are actual or potential cross-connections to his water system through which contaminants or pollutants could backflow into his or the public potable water system. All cross-connection control or other plumbing inspections must be conducted in accordance with 225 ILCS 320/3(1).

D. It is the responsibility of the water consumer to prevent backflow into the public water system by ensuring that:

1. All cross-connections are removed; or approved cross-connection control devices are installed for control of backflow and back-siphonage.
2. Cross-connection control devices shall be installed in accordance with the manufacturer's instructions.
3. Cross-connection control devices shall be inspected at the time of installation and at least annually by a person approved by the Agency as a CCCDI. The inspection of mechanical devices shall include physical testing in accordance with the manufacturer's instructions.
4. Testing and records:

- (a) Each device shall be tested at the time of installation and at least annually or more frequently if recommended by the manufacturer.
- (b) Records submitted to the Water Department shall be available for inspection by Agency personnel in accordance with 415 ILCS 5/4(e).
- (c) Each device shall have a tag attached listing the date of most recent rest, name of CCCDI and type and date of repairs.
- (d) A maintenance log shall be maintained and include:
 - I. Date of each test;
 - II. Name and approval number of person performing the test;
 - III. Test results;
 - IV. Repairs or servicing required;
 - V. Repairs and date completed; and
 - VI. Service performed and date completed.

26.06 WHERE PROTECTION IS REQUIRED

A. An approved backflow device shall be installed on all connections to the public water supply as described in the Plumbing Code, 77 Ill. Adm. Code 890 and the Agency's regulation, 35 Ill. Adm. Code 680. In addition, an approved backflow prevention device shall be installed on each service line to a consumer's water system serving premises, where in the judgment of the Public Works Coordinator, actual or potential hazards to the public water supply system exist.

B. An approved backflow prevention device shall be installed on each service line to a consumer's water system serving premises where the following conditions exist:

- 1. Premises having an auxiliary water supply, unless such auxiliary supply is accepted as an additional source by the Public Works Coordinator and the source is approved by the Agency.
- 2. Premises on which any substance is handled which can create an actual premises having sources or systems containing process fluids or waters originating from the public water supply system which are no longer under the sanitary control of the Public Works Coordinator.