

**Backflow prevention and cross-connection control definitions and incorporation by reference.**

Except as follows, the definitions in rule 3745-81-01 of the Administrative Code apply to this chapter:

**(A)**

- (1) "Air gap separation" means the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other device and the flood level rim of the receptacle.
- (2) "Approved" means that a backflow preventer has been accepted by the supplier of water and the director as suitable for the proposed use.
- (3) "Auxiliary water system" means any water system on or available to the premises other than the public water system. Auxiliary water systems include used water or water from a source other than the public water system, such as wells, cisterns or open reservoirs that are equipped with pumps or other prime movers, including gravity.

**(B)**

- (1) "Backflow" means the flow of water or other liquids, mixtures, or substances into the distributing pipes of a public water system from any source other than the intended source of the public water system.
- (2) "Backflow preventer" means any assembly, device, method or type of construction intended to prevent backflow into a public water system.
- (3) "Booster pump" means any device which is intended to increase the in-line water pressure.

**(C)**

- (1) "Consumer" means the owner or person in control of any premises supplied by or in any manner connected to a public water system. When the consumer and the supplier of water are the same person, any requirements imposed on the consumer by this chapter apply to the supplier of water.
- (2) "Consumer's water system" means any water system, located on the consumer's premises, supplied by or in any manner connected to a public water system. A

household plumbing system is considered to be a consumer's water system.

- (3) "Containment principle backflow preventer" is a backflow preventer intended to prevent any water with contaminants from backflowing into the public water system. For single property community public water systems and for noncommunity public water systems, a containment principle backflow preventer is installed at the actual or potential cross-connection. For all other community public water systems, containment principle backflow preventers are installed on each service connection to a consumer's water system, unless otherwise specified in this chapter.
  - (4) "Cross-connection" means any physical connection or arrangement whereby backflow can occur.
- (D)
- (1) "Degree of hazard" is a term derived from an evaluation of the potential risk to health and welfare.
  - (2) "Double check valve assembly" means an assembly composed of two single, independently acting, check valves including tightly closing shutoff valves located at each end of the assembly and suitable connections for testing the watertightness of each check valve.
  - (3) "Double check-detector check valve assembly" means a specially designed assembly composed of a line-size approved double check valve assembly with a specific bypass water meter and a meter-sized approved double check valve assembly. The meter shall register accurately for only very low rates of flow and show a registration for all rates of flow.
- (E) [Reserved.]
- (F) [Reserved.]
- (G) [Reserved.]
- (H) "Health hazard" means any condition, device, or practice in a water system or its operation that creates, or may create, a danger to the health of users.
- (I)

- (1) "Interchangeable connection" means an arrangement or device that will allow alternate but not simultaneous use of two sources of water and includes an approved reduced pressure principle backflow prevention assembly or an approved reduced pressure principle-detector assembly on the public water system side of the connection.
- (2) "Isolation backflow prevention device" means a device for the prevention of the backflow of liquids, solids, or gases that is regulated by the plumbing code adopted pursuant to section 3781.10 of the Revised Code

(J) [Reserved.]

(K) [Reserved.]

(L) [Reserved.]

(M) [Reserved.]

(N) [Reserved.]

(O) [Reserved.]

(P)

- (1) "Pollutional hazard" means a condition through which an aesthetically objectionable or degrading contaminant, which is not dangerous to the public water system or health of users, may enter the public water system or portion of a consumer's water system.
- (2) "Premises" means any building, structure, dwelling or area containing plumbing or piping supplied from a public water system.
- (3) "Pressure vacuum breaker" means an assembly composed of an independently acting spring loaded check valve located downstream of an independently acting spring loaded air inlet valve including, tightly closing shutoff valves located at each end of the assembly and suitable connections for testing the integrity of the air inlet and check valves.
- (4) "Process fluids" means any fluid or solution which may contain contaminants in a form or concentration such as would constitute a pollutional, system, health

or severe health hazard if introduced into the public water system or portion of a consumer's water system. This includes, but is not limited to the following:

- (a) Process waters.
- (b) Used waters originating from a public water system which may have deteriorated in sanitary quality.
- (c) Cooling waters.
- (d) Contaminated natural waters taken from wells, lakes, streams or irrigation systems.
- (e) Chemicals in solution or suspension.
- (f) Oils, gases, acids, alkalis, and other liquid and gaseous fluids used in industrial or other processes, or for fire fighting purposes.

(Q) [Reserved.]

(R)

- (1) "Reduced pressure principle backflow prevention assembly" means an assembly containing a minimum of two independently acting check valves together with an automatically operated pressure differential relief valve located between the two check valves. 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 valves at less than the supply pressure. The unit shall include tightly closing shutoff valves located at each end of the assembly, and each assembly shall be fitted with properly located test cocks.
- (2) "Reduced pressure principle-detector assembly" means a specially designed assembly composed of a line-size approved reduced pressure principle backflow prevention assembly with a specific bypass water meter and a meter sized approved reduced pressure principle backflow prevention assembly. The meter shall register accurately for only very low rates of flow and show a registration for all rates of flows.

## (S)

- (1) "Severe health hazard" means a health hazard to users that could reasonably be expected to result in significant morbidity or death.
- (2) "Single property community water system" means a community water system as defined in paragraph (P)(11)(a) of rule 3745-81-01 of the Administrative Code that is located on a single property or contiguous properties under the ownership or control of a single person.
- (3) "System hazard" means a condition posing an actual or potential threat of damage to the physical properties of the public water system or a consumer's water system.

## (T) [Reserved.]

- (U) "Used water" means any water supplied by a public water system to a consumer's water system after the water has passed through the service connection and is no longer under the control of the supplier.

## (V) [Reserved.]

## (W)

- (1) "Water system" means a system for the provision of piped water or process fluids, and includes any collection, treatment, storage or distribution facilities used primarily in connection with such system.
- (2) "Weep holes" means a series of small diameter holes located in the wall of the supply pipe for a yard hydrant that allow for drainage of accumulated water from the delivery piping. These holes are usually part of a plunger and valve system that seals off the holes during water usage and opens the holes during shutdown. These openings are located below ground level and below the frost line in areas where the threat of freezing exists.

## (X) [Reserved.]

- (Y) "Yard hydrant" means a device that is located outside of a building, equipped with a valved mechanism that controls the delivery of potable water, and is not designed to supply a fire department pumper.

(Z) [Reserved.]

(AA) Referenced materials. This chapter includes references to certain subject matter or materials. The text of the referenced materials is not included in the rules contained in this chapter. Information on the availability of the referenced materials as well as the date of and the particular edition or version of the material is included in this rule. For materials subject to change, only the specific version specified in this rule are referenced. Material is referenced as it exists on the effective date of this rule. Except for subsequent annual publication of existing (unmodified) Code of Federal Regulation compilations, any amendment or revision to a referenced document is not referenced unless and until this rule has been amended to specify the new dates.

(1) Availability. The referenced materials are available as follows:

- (a) "American National Standards Institute/American Water Works Association" (ANSI/AWWA). A copy may be obtained from "AWWA Bookstore, 6666 W. Quincy Avenue, Denver, CO, 80235," (303) 794-7711, [www.awwa.org](http://www.awwa.org). The standards are available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215."
- (b) "American National Standards Institute/National Sanitation Foundation" (ANSI/NSF). A copy may be obtained from "NSF International, 789 N. Dixboro Road, P.O. Box 130140, Ann Arbor, MI 48105," (734) 769-8010, [www.nsf.org](http://www.nsf.org). The standards are available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215."
- (c) "American Society of Mechanical Engineers" (ASME). A copy may be obtained from "ASME, Three Park Avenue New York, NY 10016-5990 or, a copy may be obtained from Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112, (303) 397-7956 or (800) 854-7179, [global.ihs.com](http://global.ihs.com). The standards are available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215-3425."
- (d) "American Society of Sanitary Engineering" (ASSE). A copy may be obtained from "American Society of Sanitary Engineering, 901 Canterbury Road, Suite A, Westlake, OH, 44145-1480", (440) 835-3040, [www.asse-plumbing.org](http://www.asse-plumbing.org) or from "Global Engineering Documents, 15 Inverness Way East, Englewood, CO, 80112" (303) 397-7956 or (800) 854-7179, [global.ihs.com](http://global.ihs.com). The standards are

available for review at "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH, 43215-3425."

- (e) "Canadian Standards Association" (CSA). A copy of these documents may be obtained from Canadian Standards Association, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, L4W 5N6, Canada, [www.csa.ca/default.asp?language=english](http://www.csa.ca/default.asp?language=english). These documents are available for review at Ohio EPA, Lazarus Government Center, 50 West Town Street, Columbus, OH, 43215-3425.]
- (f) "Foundation for Cross Connection Control and Hydraulic Research, University of Southern California." A copy of "Manual of Cross-connection Control" tenth edition, may be obtained from the "Foundation for Cross Connection Control and Hydraulic Research, University of Southern California, Research Annex 219, 3716 Hope street, Los Angeles, CA 90089-7700," (866) 545-6340, [www.usc.edu/dept/fccchr](http://www.usc.edu/dept/fccchr).
- (g) "Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers." A copy of "Recommended Standards for Water Works" may be obtained at [www.health.state.mn.us/communities/environment/water/tenstates/standards.html](http://www.health.state.mn.us/communities/environment/water/tenstates/standards.html).

(2) Referenced materials:

- (a) "ASME A112.1.2, Air Gaps in Plumbing Systems," 2012.
- (b) "ASME A112.1.3, Air Gap Fittings for Use with Plumbing Fixtures, Appliances, and Appurtenances," 2000, reaffirmed 2015.
- (c) "ASSE 1013, Performance Requirements for Reduced Pressure Principle Backflow Prevention Assemblies," 2011.
- (d) "ASSE 1015, Performance Requirements for Double Check Backflow Prevention Assemblies," 2011.
- (e) "ASSE 1020, Performance Requirements For Pressure Vacuum Breaker Assemblies," 2004.
- (f) "ASSE 1047, Performance Requirements For Reduced Pressure Detector Fire Protection Backflow Prevention Assemblies," 2011.

- (g) "ASSE 1048, Performance Requirements for Double Check Detector Fire Protection Backflow Prevention Assemblies," 2011.
- (h) "ASSE 1056, Performance Requirements for Spill Resistant Vacuum Breaker Assemblies," 2013.
- (i) "ASSE 1057, Performance Requirements for Freeze Resistant Sanitary Yard Hydrants with Backflow Protection," 2012.
- (j) "ASSE 1060, Performance Requirements For Outdoor Enclosures For Fluid Conveying Components," 2006.
- (k) "AWWA C510, Double Check Valve Backflow Prevention Assembly," 2007.
- (l) "AWWA C511, Reduced-Pressure Principle Backflow Prevention Assembly," 2007.
- (m) "CSA B64 Series" 2011, reaffirmed in 2016, as follows:
  - (i) "B64.1.2, Pressure vacuum breakers (PVB)."
  - (ii) "B64.1.3, Spill Resistant Pressure Vacuum Breaker (SRPVB)."
  - (iii) "B64.4, Reduced pressure principle (RP) backflow preventers."
  - (iv) "B64.4.1, Reduced pressure principle backflow preventers for fire protection systems (RPF)."
  - (v) "B64.5, Double check valve (DCVA) backflow preventers."
  - (vi) "B64.5.1, Double check valve backflow preventers for fire protection systems (DCVAF)."
- (n) "Foundation for Cross Connection Control and Hydraulic Research, University of Southern California, "Standards for Backflow Prevention Assemblies contained in Chapter 10 of the Manual of Cross-Connection Control" tenth edition (2009)."



- (o) "Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers', Recommended Standards for Water Works" (2018).

Effective: 10/10/2022  
Five Year Review (FYR) Dates: 7/20/2022 and 10/10/2027

CERTIFIED ELECTRONICALLY

---

Certification

09/26/2022

---

Date

Promulgated Under: 119.03  
Statutory Authority: 6109.04  
Rule Amplifies: 6109.04, 6109.13  
Prior Effective Dates: 07/01/1972, 11/26/1980, 05/01/2003, 10/01/2006,  
04/19/2012, 10/26/2015

- (A) No person shall install or maintain an actual or potential cross-connection to or within a public water system unless such actual or potential cross-connections are abated or controlled to the satisfaction of the supplier of water and at minimum, in compliance with this chapter.
  
- (B) No person shall install or maintain a cross-connection between a public water system or consumer's water system and an auxiliary water system unless the auxiliary water system, the method of connection and the use of such system have been approved by the supplier of water and by the director as required by section 6109.13 of the Revised Code.
  
- (C) A public water system shall develop and implement a backflow prevention and cross-connection control program consistent with this chapter.

Effective: 10/10/2022  
Five Year Review (FYR) Dates: 7/20/2022 and 10/10/2027

CERTIFIED ELECTRONICALLY

---

Certification

09/26/2022

---

Date

Promulgated Under: 119.03  
Statutory Authority: 6109.04  
Rule Amplifies: 6109.04, 6109.13  
Prior Effective Dates: 07/01/1972, 11/26/1980, 05/01/2003, 10/26/2015

**(A) Initial assessment.**

- (1) The supplier of water shall conduct or cause to be conducted an initial assessment of water use practices within a consumer's premises to determine whether there are actual or potential cross-connections that, in the judgment of the supplier of water, may cause a pollutional, system, health or severe health hazard to the public water system. The initial assessment should include a combination of review of any plans, inspection records, regulatory permitting documentation or survey questionnaire, related to water use practices and backflow prevention needs, and onsite investigations. At a minimum, a survey questionnaire of water use practices shall be completed and documented. For premises identified under paragraph (B)(5) of rule 3745-95-04 of the Administrative Code, and those identified to have an actual or potential hazard during the survey process, an onsite investigation and documentation of the investigation, is required.
- (2) For strictly residential premises, an initial assessment is not required for each premises provided the supplier of water has an alternate ongoing methodology to identify changes in water use practices that may represent a new, previously unidentified, or increased hazard to the public water system. Methods may include review of residential building plans, visiting distribution service areas for visual inspection of possible hazards, flagging new businesses at residential addresses, and those established under paragraph (B)(2) of this rule.

**(B) Periodic investigations and surveys.**

- (1) The supplier of water shall conduct or cause to be conducted periodic on-site investigation of all premises at least every five years to identify changes in water use practices so that new, previously unidentified, or increased hazards to the public water system are identified and mitigated. For noncommunity public water systems that have a residential population, provisions of paragraph (B)(3) of this rule may be used, as applicable, for the residential population.
- (2) In lieu of conducting an on-site investigation at each premises, the supplier of water for all community public water system may document, in writing, an alternate, on-going, methodology to identify changes in water use practices that may represent a new, previously unidentified, or increased hazard to the public water system. At a minimum, a water use survey questionnaire must be used to document the evaluation of each premises. An on-site investigation is required when a potential new or increased hazard is suspected to confirm the degree of risk and how the hazard will be addressed.

- (a) Information obtained through a water use survey questionnaire or in coordination with the local building, zoning, health, fire protection and other licensing agencies may be used as an indicator of when an on-site investigation should be conducted.
  - (b) Other triggers, a request to the supplier of water for a new or additional service line, or an additional or larger meter warrants a survey or onsite investigation. Failure to adequately respond to the water use survey questionnaire should warrant an on-site investigation.
- (3) In lieu of conducting an on-site investigation at each residential premises, the supplier of water may institute an on-going educational campaign to inform consumers of common backflow hazards created during residential water use and provide a reporting mechanism for suspected cross-connections.
- (a) An educational campaign may use local media and advertising resources, but must also include information directly delivered, either electronically or hard copy, to each residential service connection. Information must be delivered annually.
  - (b) If providing backflow prevention education electronically, whether through the annual consumer confidence report or otherwise, a direct website link must be provided and clearly identified in such a manner that consumers understand information in the link provides education on backflow prevention and cross connection control.
  - (c) Residential premises identified to have water use practices that represent an actual or potential hazard to the public water system must have periodic on-site investigations at least every five years or be addressed by an alternate on-going methodology that identifies changes in water use practices.

(C) Additional supplier of water and consumer responsibilities.

- (1) Provisions are in place to maintain the right of the supplier or the supplier's authorized representative to enter premises served by the public water system at all reasonable times for the purpose of making surveys and investigations of water use practices within the premises to ensure compliance with this chapter.
- (2) On request by the supplier of water, or the supplier's authorized representative, provisions are in place to require that the consumer provides information on

water use practices within the consumer's premises.

- (3) Suspected cross-connections are investigated, records of the investigations are maintained in accordance with rule 3745-95-06 of the Administrative Code and made available to the agency upon request.
- (4) Paragraphs (A) and (B) of this rule does not relieve the consumer of the responsibility for conducting, or causing to be conducted, periodic surveys and investigations of water use practices on the consumer's premises to determine whether there are actual or potential cross-connections in the consumer's water system through which contaminants or pollutants could backflow into a public water system or a consumer's potable water system.

Replaces: 3745-95-03  
Effective: 10/10/2022  
Five Year Review (FYR) Dates: 10/10/2027

CERTIFIED ELECTRONICALLY

---

Certification

09/26/2022

---

Date

Promulgated Under: 119.03  
Statutory Authority: 6109.04  
Rule Amplifies: 6109.04, 6109.13  
Prior Effective Dates: 07/01/1972, 11/26/1980, 10/26/2015



**Where protection is required.**

(A) For single property community water systems and for noncommunity water systems, an approved backflow preventer shall be installed at the actual or potential cross-connection, where in the judgment of the supplier of water or the director, a polluttional, system, health or severe health hazard to the public water system exists including the following:

- (1) Any situation that could allow backflow of process fluids.
- (2) In the judgement of the supplier of water or director, a premises has internal cross-connections that are not correctable or contain intricate plumbing arrangements that make determining whether or not cross-connections exist impractical.
- (3) A premises having a repeated history of cross-connections being established or re-established.
- (4) Facilities listed in paragraph (B)(5) of this rule and others specified by the director.

(B) For all other community water systems, an approved backflow preventer shall be installed on each service line to the consumer's water system serving the premises where in the judgement of the supplier of water or the director, a polluttional, system, health, or severe health hazard to the public water system exists including the following :

- (1) Premises where any situation exists that could allow backflow of process fluids
- (2) Premises having internal cross-connections that, in the judgment of the supplier of water or director, are not correctable, or contain intricate plumbing arrangements which make it impracticable to determine whether or not cross-connections exist.
- (3) Premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete cross-connection assessment.
- (4) Premises having a repeated history of cross-connections being established or re-established.
- (5) The following specific types of facilities unless the director determines that no

severe health, health, system or pollutional hazard to the public water system exists:

- (a) Hospitals, mortuaries, clinics, nursing homes.
- (b) Laboratories.
- (c) Piers, docks, waterfront facilities.
- (d) Sewage treatment plants, sewage pumping stations, or storm water pumping stations.
- (e) Food or beverage processing plants.
- (f) Chemical plants.
- (g) Metal plating industries.
- (h) Petroleum processing or storage plants.
- (i) Radioactive material processing plants or nuclear reactors.
- (j) Car washes.
- (k) Bulk water loading, including but not limited to, bulk water loading stations and temporary use of fire hydrants.
- (l) Others specified by the director.

(C) The following requirements apply to premises that have an auxiliary water system on the real property, on or available to the premises, that is owned or under control of the consumer or public water system:

- (1) The supplier of water shall document, in writing, through an onsite inspection conducted or caused to be conducted by the supplier of water, every twelve months that there is no connection or means of connection between the public water system or a consumer's water system and the auxiliary water system as prohibited by paragraph (B) of rule 3745-95-02 of the Administrative Code.

- (2) For single property community water systems and noncommunity water systems, an approved backflow preventer shall be installed within the supplier of water's premises when and where appropriate to mitigate the hazard at the actual or potential cross-connection. For all other community water systems serving customers through service connections, an approved backflow preventer shall be installed at the service line.
- (3) For community water systems, other than single property community water systems, the requirement to install an approved backflow preventer may be waived at the discretion of the supplier of water if the supplier of water does all of the following:
  - (a) Determines that the auxiliary water system is on the real property but is not on the premises.
  - (b) Determines, on a case-by-case basis, that the installation of an approved backflow preventer on a service connection is not required in consideration of factors including, but not limited to, the past history of cross connections being established or re-established on the premises, the ease or difficulty of connecting the auxiliary water system with the public water system on the premises, the presence or absence of contaminants on the property or other risk factors.
  - (c) Requires the consumer to sign an agreement which specifies the penalties, including those set forth in rule 3745-95-08 of the Administrative Code, for creating a connection between the public water system and the auxiliary water system.
  - (d) Conducts or causes to be conducted an inspection at least every twelve months to certify that no connection or means of connection has been created between the public water system and the auxiliary water system.
  - (e) Maintains an inventory of each consumer's premises where an auxiliary water system is on or available to the premises, or on the real property adjacent to the premises.
  - (f) Develops and implements an education program to inform all consumers served by the public water system about the dangers of cross-connections and how to eliminate cross-connections.
- (4) Provisions in paragraph (C)(1) of this rule may be waived for an auxiliary water system if any of the following conditions are met:

- (a) An auxiliary water system is accepted as an additional source by the supplier of water and the source is approved by the director, in accordance with paragraph (B) of rule 3745-95-02 of the Administrative Code..
- (b) The connection to the auxiliary water system is an approved connection for dual water supplies, in accordance with paragraph (B) of rule 3745-95-02 of the Administrative Code and conforms to the following:
  - (i) An approved backflow preventer is installed at any point of connection between a public water system or a consumer's water system and the auxiliary water system.
  - (ii) The connection meets the requirement in paragraph (B) of rule 3745-95-05 of the Administrative Code.
- (c) The connection to the auxiliary water system is for fire protection purposes only and meets the requirements set forth in paragraph (C) of rule 3745-95-05 of the Administrative Code.

Replaces: 3745-95-04  
Effective: 10/10/2022  
Five Year Review (FYR) Dates: 10/10/2027

CERTIFIED ELECTRONICALLY

---

Certification

09/26/2022

---

Date

Promulgated Under: 119.03  
Statutory Authority: 6109.04  
Rule Amplifies: 6109.04, 6109.13, 6109.03, 6109.01  
Prior Effective Dates: 07/01/1972, 11/26/1980, 05/01/2003, 08/15/2018

**Type of protection required.**

- (A) The type of protection required under paragraphs (A), (B), and (C) of rule 3745-95-04 of the Administrative Code shall depend on the degree of hazard which exists as follows:
- (1) An approved air gap separation shall be installed where a public water system may be contaminated with substances that could cause a severe health hazard.
  - (2) An approved air gap separation, an approved reduced pressure principle backflow prevention assembly or an approved reduced pressure detector check assembly shall be installed where a public water system may be contaminated with any substance that could cause a system or health hazard.
  - (3) An approved air gap separation, an approved reduced pressure principle backflow prevention assembly, an approved reduced pressure principle-detector check assembly, an approved double check valve assembly or an approved double check-detector check valve assembly shall be installed where a public water system may be contaminated with any substance that could cause a polluttional hazard.
- (B) For an approved connection to an auxiliary water system for dual water supplies, as required under paragraph (C) of rule 3745-95-04 of the Administrative Code, the type of protection required shall be an approved air gap separation or an approved interchangeable connection. A removable spool piece connection is not an acceptable method.
- (C) Where an auxiliary water system is used as a secondary source of water for a fire protection system, the provisions of paragraph (B) of this rule for an approved air gap separation or an approved interchangeable connection may be waived by the director, provided the following conditions exist:
- (1) At premises where the auxiliary water system may contain contaminants that could cause a system, health or severe health hazard, a public water system or a consumer's water system shall be protected against backflow by installation of an approved reduced pressure principle backflow prevention assembly or an approved reduced pressure principle-detector check assembly.
  - (2) At all other premises, a public water system or a consumer's water system shall be protected against backflow by installation of an approved reduced pressure principle backflow prevention assembly, an approved reduced pressure principle-detector check assembly, an approved double check valve assembly or an approved double check-detector check valve assembly.

- (3) A public water system or a consumer's water system shall be the primary source of water for filling the fire protection system.
  - (4) The water in the fire protection system shall be used for fire protection only, with no other use of water from the fire protection system downstream from the approved backflow preventer.
- (D) An exception to the requirement in paragraph (A)(2) of this rule may be applied when mitigating the health hazard associated with a water-only, residential-type irrigation system that is not subjected to backpressure and is not equipped with pumps or other prime movers which can create backpressure to the public or the consumer's water system. In this instance, an approved pressure vacuum breaker installed at the cross-connection to the irrigation system may be used as the containment backflow preventer. An approved pressure vacuum breaker is one that is approved, in accordance with the rules adopted by the board of building standards pursuant to Chapters 3781. and 3791. of the Revised Code, by a local building department certified to enforce the plumbing code, a health department having a plumbing enforcement program, or the division of industrial compliance, whichever has jurisdiction for plumbing enforcement.. The maintenance and testing requirements in rule 3745-95-06 of the Administrative Code apply. This exception does not apply if an additive is used within the irrigation system. The supplier of water may determine other hazards exist that warrant a higher level of protection.

Effective: 10/10/2022  
Five Year Review (FYR) Dates: 7/20/2022 and 10/10/2027

CERTIFIED ELECTRONICALLY

---

Certification

09/26/2022

---

Date

Promulgated Under: 119.03  
Statutory Authority: 6109.04  
Rule Amplifies: 6109.04, 6109.13  
Prior Effective Dates: 07/01/1972, 11/26/1980, 05/01/2003, 10/26/2015



- (A) Any containment principle backflow preventer required by rules 3745-95-04 and 3745-95-05 of the Administrative Code shall be of a model or construction approved by the supplier of water and conform to at least one of the following standards:
- (1) For air gap separations:
    - (a) ASME A112.1.2.
    - (b) For single property community water systems and noncommunity public water systems, air gap fittings, ASME A112.1.3.
    - (c) On a case by case basis, the director may accept an alternative configuration to meet the physical separation requirement of the air gap standard if the alternative configuration is protective of human health and acceptable to the supplier of water.
  - (2) For reduced pressure principle backflow prevention assemblies: AWWA C511, ASSE 1013, CSAB64.4, or "Foundation for Cross Connection Control and Hydraulic Research, University of Southern California, Standards for Backflow Prevention Assemblies, Reduced Pressure Principle Backflow Prevention Assemblies."
  - (3) For double check valve assemblies: ASSE C510, ASSE 1015, CSA B64.5, or "Foundation for Cross Connection Control and Hydraulic Research, University of Southern California Standards for Backflow Prevention Assemblies, Reduced Pressure Principle Backflow Prevention Assemblies."
  - (4) For reduced pressure principle-detector assemblies: ASSE 1047, CSA B64.4.1, or "Foundation for Cross Connection Control and Hydraulic Research, University of Southern California, Standards for Backflow Prevention Assemblies, Reduced Pressure Principle Backflow Prevention Assemblies."
  - (5) For double check-detector check valve assemblies: ASSE 1048, CSA standard B64.5-1, or "Foundation for Cross Connection Control and Hydraulic Research, University of Southern California, Standards for Backflow Prevention Assemblies, Reduced Pressure Principle Backflow Prevention Assemblies."
  - (6) For pressure vacuum breaker assemblies: ASSE 1020, CSA B64.1.2; and for spill resistant pressure vacuum breakers: ASSE 1056 or CSA B64.1.3.

(B) Any containment principle backflow preventer required by rules 3745-95-04 and 3745-95-05 of the Administrative Code shall be installed at a location and in a manner approved by the supplier of water or the director and shall be installed at the expense of the water consumer. In addition, any backflow preventer required by paragraphs (B) and (C) of rule 3745-95-05 of the Administrative Code shall be installed at a location and in a manner that conforms to the following and is approved by the director as required by section 6109.13 of the Revised Code:

- (1) Installed in accordance with the criteria outlined for orientation in the applicable approval standard in paragraph (A) of this rule.
  - (2) Readily accessible for inspection, testing and repair.
  - (3) Installed to prevent submergence.
  - (4) Protected from freezing. Any provided heated enclosures shall conform to ASSE 1060.
  - (5) Not installed within a pit or vault below ground for a reduced pressure principle backflow prevention assembly or reduced pressure principle-detector assembly.
  - (6) Installed to have a visible free discharge from a relief port and adequate floor drainage to handle the discharge from the relief port, if applicable.
- (C) The water consumer shall maintain any containment principle backflow preventer required by rules 3745-95-04 and 3745-95-05 of the Administrative Code in proper working order and in continuous operation.
- (1) The supplier of water shall retain authority over any containment principle backflow preventer required by rules 3745-95-04 and 3745-95-05 of the Administrative Code.
  - (2) The supplier of water shall see that the tests and inspections required under this paragraph are made.
  - (3) The consumer shall, on any premises on which any containment principle backflow preventer required by rules 3745-95-04 and 3745-95-05 of the Administrative Code are installed, have thorough inspections and operational tests made of the backflow preventers at the time of installation or repair, and as may be reasonably required by the supplier of water or the director, but in

all cases at least once every twelve months. The consumer shall visually inspect and document that no connection or means of connection exists between the public water system or a consumer's water system and the auxiliary water system as required by rule 3745-95-04 of the Administrative Code and interchangeable connections as required by rule 3745-95-05 of the Administrative Code for purposes of this paragraph. These inspections and tests shall be at the expense of the water consumer and shall be performed by a person approved by the supplier of water and acceptable to the director as qualified to inspect and test backflow preventers.

- (4) Backflow preventers shall be repaired, overhauled or replaced at the expense of the consumer whenever they are found to be defective.
  - (5) Records of such inspections, tests, repairs and overhauls shall be kept by the consumer and made available to the supplier of water.
  - (6) The supplier of water shall maintain a paper or electronic record documenting the survey, investigation and installation of containment principle backflow preventers. The supplier of water shall maintain documentation of inspections, tests, repairs and overhauls related to the containment principle backflow preventers and that no connection or means of connection exists between the public water system or a consumer's water system and the auxiliary water system required by rules 3745-95-04 and 3745-95-05 of the Administrative Code for a minimum of five years.
- (D) The supplier of water shall inspect or cause to be inspected all installations where an approved connection exists between an auxiliary water system and the public water system or a consumer's water system at least once every twelve months and shall maintain an inventory of all such installations and inspection records. Such inventories and inspection records shall be made available during sanitary surveys and at other reasonable times. Paper or electronic inspection records shall be maintained by the supplier of water for a minimum of five years.
- (E) Containment principle backflow preventers approved by the supplier of water and conforming to prior or subsequent editions of the standards cited in paragraph (A) of this rule, and which are properly maintained in accordance with paragraph (C) of this rule shall be excluded from the requirements of paragraphs (A) and (B) of this rule if the supplier of water and the director are assured that the backflow preventer will satisfactorily protect the public water system. When containment backflow preventers are replaced, the backflow preventers shall meet the requirements of paragraphs (A) and (B) of this rule at the time of installation.

(F) For single property community water systems and noncommunity water systems, other backflow preventers for plumbing applications may be accepted by the director to abate or control the cross connection, if the water use practice is not specifically addressed in this chapter, and the backflow preventer is identified as an approved isolation backflow prevention device in accordance with section 608 of rule 4101:3-6-01 of the Administrative Code adopted by the board of building standards for the corresponding water use practice. The consumer shall ensure these backflow preventers are inspected at least once every twelve months, maintained in proper working order, tested, if applicable, and maintain records of the results thereof. This paragraph does not apply to water use practices posing a severe health hazard or in cases where an auxiliary water system is on or available to the premises.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, test methods, federal rules, and federal statutory provisions referenced in this rule, see paragraph (AA) of rule 3745-95-01 of the Administrative Code titled "Referenced materials."]

Replaces: 3745-95-06  
Effective: 10/10/2022  
Five Year Review (FYR) Dates: 10/10/2027

CERTIFIED ELECTRONICALLY

---

Certification

09/26/2022

---

Date

Promulgated Under: 119.03  
Statutory Authority: 6109.04  
Rule Amplifies: 6109.04, 6109.13  
Prior Effective Dates: 07/01/1972, 11/26/1980, 05/01/2003, 10/26/2015

**Booster pumps.**

- (A) No person shall install or maintain a cross connection to any premises where a booster pump has been installed, unless an approved method is in place and is operational to maintain a minimum suction pressure as prescribed in the following:
- (1) For booster pumps not intended to be used for fire suppression, no person shall install or maintain a cross connection to any premises where a booster pump has been installed unless such booster pump is equipped with a low pressure cut-off designed to shut-off the booster pump when the pressure in the service line on the suction side of the pump drops to ten pounds per square inch gauge or less.
  - (2) For booster pumps used for fire suppression, also referred to as fire pumps, no person shall install or maintain a cross connection to any premises where a fire pump has been installed on the service line to or within such premises, unless the pump is equipped with one of the following:
    - (a) A low suction throttling valve which is a pilot-operated valve installed in the discharge piping that maintains positive pressure in the suction piping, while monitoring pressure in the suction piping through a sensing line. The valve shall throttle the discharge of the pump when necessary so that suction pressure will not be reduced below ten pounds per square inch gauge while the pump is operating.
    - (b) A variable speed suction limiting control which is a speed control system used to maintain a minimum positive suction pressure at the pump inlet by reducing the pump driver speed while monitoring pressure in the suction piping through a sensing line. It will be set so that the suction pressure will not be reduced below ten pounds per square inch gauge while the pump is operating.
  - (3) Booster pumps used for fire suppression, also referred to as fire pumps, installed prior to August 8, 2008, which are equipped with a low pressure cut-off as defined in paragraph (A)(1) of this rule, are not required to be modified solely for the purpose of meeting the new methods accepted after this date, under paragraph (A)(2) of this rule.
- (B) The water consumer shall maintain the low pressure cut-off device, the low suction throttling valve, or the variable speed suction limiting control in proper working order and certify to the supplier of water, at least once every twelve months that the minimum suction pressure sustaining method is operable and maintained in continuous operation.

- (C) The supplier of water shall maintain electronic or paper records of inventory of booster pump installations. Electronic or paper records certifying operation shall be retained for a period of five years.
  
- (D) The provisions of this rule shall be followed notwithstanding inconsistent provisions in the "Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers' Recommended Standards for Water Works."

[Comment: .For dates of non-regulatory government publications, publications of recognized organizations and associations, test methods, federal rules, and federal statutory provisions referenced in this rule, see paragraph (AA) of rule 3745-95-01 of the Administrative Code titled "Referenced materials."]

Effective: 10/10/2022  
Five Year Review (FYR) Dates: 7/20/2022 and 10/10/2027

CERTIFIED ELECTRONICALLY

---

Certification

09/26/2022

---

Date

Promulgated Under: 119.03  
Statutory Authority: 6109.04  
Rule Amplifies: 6109.04, 6109.13  
Prior Effective Dates: 07/01/1972, 11/26/1980, 05/01/2003, 08/08/2008,  
10/26/2015, 08/15/2018



**Deny or discontinue water service.**

- (A) After reasonable notice to the occupant thereof, the supplier of water shall deny or discontinue the water service to any premises wherein any of the following occurs:
- (1) A backflow preventer required by this chapter is not installed, tested and maintained in a manner acceptable to the supplier of water.
  - (2) The backflow preventer has been removed or by-passed.
  - (3) An unprotected cross-connection exists on the premises.
  - (4) A low pressure cut-off, low suction throttling valve or variable speed suction limiting control, as required by rule 3745-95-07 of the Administrative Code, is not installed or maintained in working order.
  - (5) The supplier of water or the director, or the authorized representative of either, is denied entry to determine compliance with this chapter.
- (B) Water service to such premises shall not be restored until the consumer has corrected or eliminated such conditions or defects in conformance with this chapter , and to the satisfaction of the supplier of water.

Effective: 10/10/2022  
Five Year Review (FYR) Dates: 7/20/2022 and 10/10/2027

CERTIFIED ELECTRONICALLY

---

Certification

09/26/2022

---

Date

Promulgated Under: 119.03  
Statutory Authority: 6109.04  
Rule Amplifies: 6109.04, 6109.13  
Prior Effective Dates: 07/01/1972, 11/26/1980, 08/15/2018

**Requirements for yard hydrants.**

- (A) The following applies to yard hydrants that are used for human consumption and are installed on a public water system:
- (1) On the effective date of this rule, installation of yard hydrants with weep holes is prohibited. Any new or replacement yard hydrant installed shall meet the requirements of the "American Society of Sanitary Engineers (ASSE) standard 1057, Performance Requirements for Freeze Resistant Sanitary Yard Hydrants with Backflow Protection."
  - (2) Yard hydrants with weep holes installed prior to the effective date of this rule shall have the weep hole permanently sealed with a threaded plug supplied by the manufacturer or another compatible threaded plug.
- (B) The following applies to yard hydrants with weep holes, that are not used for human consumption and are installed on a public water system:
- (1) The service line to the yard hydrant shall have a reduced pressure principle backflow preventer installed at the connection to protect the public water system.
  - (2) The yard hydrants shall be clearly labeled as "non-potable" or "not for human consumption."
- (C) For yard hydrants with weep holes installed on a consumer's water system, the public water system shall be protected by a reduced pressure principle backflow preventer.
- (D) All yard hydrants shall comply with all other applicable backflow prevention and cross-connection control requirements of this chapter.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, test methods, federal rules, and federal statutory provisions referenced in this rule, see paragraph (AA) of rule 3745-95-01 of the Administrative Code titled "Referenced materials."]

Replaces: 3745-95-09  
Effective: 10/10/2022  
Five Year Review (FYR) Dates: 10/10/2027

CERTIFIED ELECTRONICALLY

---

Certification

09/26/2022

---

Date

Promulgated Under: 119.03  
Statutory Authority: 6109.04  
Rule Amplifies: 6109.04, 6109.13  
Prior Effective Dates: 02/15/1951, 11/26/1980, 10/01/2006, 04/19/2012