

# CHAPTER 6

## WATER SUPPLY AND DISTRIBUTION

### 601.0 Running Water Required.

**601.1** Except where not deemed necessary for safety or sanitation by the Authority Having Jurisdiction, each plumbing fixture shall be provided with an adequate supply of potable running water piped thereto in an approved manner, so arranged as to flush and keep it in a clean and sanitary condition without danger of backflow or cross-connection. Water closets and urinals shall be flushed by means of an approved flush tank or flushometer valve. In jurisdictions that adopt Chapter 16, water closets, urinals, and trap primers in designated non-residential buildings may be provided with reclaimed water as defined and regulated by Chapter 16 of this code. **[HCD 1 & HCD 2]** Exceptions 1, 2 and 3 apply.

#### Exceptions:

- (1) Listed fixtures that do not require water for their operation and are not connected to the water supply.
- (2) For limited-density owner-built rural dwellings, potable water shall be available to the dwelling site, although such water need not be pressurized. Where water is not piped from a well, spring, cistern or other source, there shall be a minimum reserve of 50 gallons (189 L) of potable water available. Where water delivery is pressurized, piping shall be installed in accordance with the provisions of this chapter.
- (3) Where deemed not necessary for safety or sanitation by the Enforcing Agency.

**601.2 Identification of a Potable and Nonpotable Water System.** In all buildings where potable water and nonpotable water systems are installed, each system shall be clearly identified. Each system shall be color coded as follows:

**601.2.1 Potable Water** – Green background with white lettering.

**601.2.2 Nonpotable Water** – Yellow background with black lettering, with the words "CAUTION: NONPOTABLE WATER, DO NOT DRINK."**[HCD 1 & HCD 2]** An international symbol of a glass in a circle with a slash through it shall be provided similar to that provided in Figure 6-1.

Each system shall be identified with a colored band to designate the liquid being conveyed, and the direction of normal flow shall be clearly shown. The minimum size of the letters and length of the color field shall conform to Table 6-1.

A colored identification band shall be

indicated every twenty (20) feet (6096 mm) but at least once per room, and shall be visible from the floor level.

Where vacuum breakers or backflow preventers are installed with fixtures listed in Table 14-1, identification of the discharge side may be omitted. Each outlet on the nonpotable water line that could be used for special purposes shall be posted as follows:

"CAUTION: NONPOTABLE WATER, DO NOT DRINK."



**Figure 6-1**  
International Symbol

**601.2.3 Reclaimed Water** – Purple (Pantone color #512) background and shall be imprinted in nominal 1/2-inch (12.7 mm) high, black upper-case letters, with the words "CAUTION: RECLAIMED WATER, DO NOT DRINK."**[HCD 1 & HCD 2]** An international symbol of a glass in a circle with a slash through it shall be provided similar to that provided in Figure 6-1.

**601.3** Faucets and diverters shall be connected to the water distribution system so that hot water corresponds to the left side of the fittings.

**TABLE 6-1**

**Minimum Length of Color Field and Size of Letters**

Outside Diameter of Pipe or Covering Inches	Minimum Length of Color Field (mm)	Minimum Length of Color Field		Minimum Size of Letters	
		Inches	(mm)	Inches	(mm)
1/2 to 1-1/4	(15 to 32)	8	(203)	1/2	(12.7)
1-1/2 to 2	(40 to 50)	8	(203)	3/4	(19.1)
2-1/2 to 6	(65 to 150)	12	(305)	1-1/4	(32)
8 to 10	(200 to 250)	24	(619)	2-1/2	(64)
Over 10	(Over 250)	32	(813)	3-1/2	(89)

**601.4 [HCD 1 & HCD 2]** All sources for drinking water shall be maintained in a clean and sanitary condition. Drinking fountains and portable water dispensers shall not be located in toilet rooms.

**601.5 [CA] Schools of Cosmetology and Cosmetological Establishments.**

**601.5.1 Hot-and Cold running Water.** At least one sink with hot-and cold-running water shall be provided in each work area or workroom where hairdressing is performed in each school and establishment.

**601.5.2 Handwashing Facilities.** Each school and establishment shall provide adequate handwashing facilities, including hot-and cold-running water, located within or adjacent to the toilet room or rooms in accordance with Table 4-1.

**601.5.3 Drinking Water.** Each school and establishment shall supply potable drinking water

convenient to students, patrons and employees. Approved sanitary drinking fountains shall be installed and so regulated that a jet of at least 2 inches (51 mm) shall be constantly available.

**601.6 [AGR] Meat and Poultry Processing Plants.** Except as provided in Section 601.6.4, the water supply shall be ample and potable, with adequate pressure and facilities for its distribution in the plant, and its protection against contamination and pollution.

**Note:** A water report, issued under the authority of the state health agency, certifying to the potability of the water supply, shall be obtained by the applicant and furnished to the administrator whenever such report is required by the administrator.

**TABLE 6-2**  
**Backflow Prevention Devices, Assemblies, and Methods**

Device, Assembly, or Method <sup>1</sup>	Degree of Hazard				Installation <sup>2,3</sup>
	Pollution (Low Hazard)		Contamination (High Hazard)		
	Back-Siphonage	Back-Pressure	Back-Siphonage	Back-Pressure	
Airgap	x		x		See Table 6-3 in this chapter.
Atmospheric Vacuum Breaker	x		x		Upright position. No valve downstream. Minimum of six (6) inches (152 mm) or listed distance above all downstream piping and flood-level rim of receptor. <sup>4,5</sup>
Spill-Resistant Pressure-Type Vacuum Breaker	x		x		Upright position. Minimum of six (6) inches (152 mm) or listed distance above all downstream piping and flood-level rim of receptor. <sup>5</sup>
Double Check Valve Backflow Preventer	x	x			Horizontal, unless otherwise listed. Requires one (1) foot (305 mm) minimum clearance at bottom for maintenance. May need platform/ladder for test and repair. Does not discharge water.
Pressure Vacuum Breaker	x		x		Upright position. May have valves downstream. Minimum twelve (12) inches (305 mm) above all downstream, piping and flood-level rim of receptor. May discharge water.
Reduced Pressure Principle Backflow Preventer	x	x	x	x	Horizontal unless otherwise listed. Requires one (1) foot (305 mm) minimum clearance at bottom for maintenance. May need platform ladder for test and repair. May discharge water.

<sup>1</sup> See description of devices and assemblies in this chapter.

<sup>2</sup> Installation in pit or vault requires previous approval by the Authority Having Jurisdiction.

<sup>3</sup> Refer to general and specific requirement for installation.

<sup>4</sup> Not to be subjected to operating pressure for more than 12 hours in any 24-hour period.

<sup>5</sup> For deck-mounted and equipment-mounted vacuum breaker, see Section 603.4.15.

**601.6.1** A supply of hot water shall be available.

**601.6.2** Hose connections with steam and water-mixing valves or hot-water hose connections shall be provided at locations throughout the plant.

**601.6.3** The refuse rooms shall be provided with facilities for washing refuse cans and other equipment in the rooms.

**601.6.4** Nonpotable water is permitted only in those parts of official plants where no product is handled or prepared, and then only for limited purposes, such as on condensers not connected with the potable water supply, in vapor lines serving inedible product rendering tanks, and in sewer lines for moving heavy solids in the sewage. In all cases, nonpotable water lines shall be clearly identified and shall not be cross connected with the potable water supply.

**Exception:** Cross connection is permitted if this is necessary for fire protection and such connection is of a type with a break to ensure against accidental contamination, and to be approved by local authorities and by the Department.

**601.6.5** Equipment using potable water shall be so installed as to prevent backsiphonage into the potable water system.

**601.6.6** All pipelines, reservoirs, tanks, cooling towers and like equipment employed in handling reused water shall be constructed and installed so as to facilitate their cleaning and inspection.

**601.6.7** Hot water of such temperature as to accomplish a thorough cleanup shall be delivered under pressure to outlets.

**601.4.7.1** An ample supply of water at not less than 180°F (82°C) shall be available when used for sanitizing purposes.

**601.6.8** Pens, alleys and runways shall have hose connections for cleanup purposes.

**601.7 [AGR] Collection Centers and Facilities**

**601.7.1** The water supply shall be ample with facilities for its distribution. An ample supply of water at not less than 180°F (82°C), or other suitable method.

**TABLE 6-3  
Minimum Airgaps for Water Distribution<sup>4</sup>**

Fixtures	When not affected by sidewalls <sup>1</sup>		When affected by sidewall <sup>2</sup>	
	Inches	(mm)	Inches	(mm)
Effective openings <sup>3</sup> not greater than one-half (1/2) inch (12.7 mm) in diameter	1	(25.4)	1-1/2	(38)
Effective openings <sup>3</sup> not greater than three-quarters (3/4) inch (20 mm) in diameter	1-1/2	(38)	2-1/4	(57)
Effective openings <sup>3</sup> not greater than one (1) inch (25 mm) in diameter	2	(51)	3	(76)
Effective openings <sup>3</sup> greater than one (1) inch (25 mm) in diameter	Two (2) times diameter of effective opening		Three (3) times diameter of effective opening	

<sup>1</sup> Sidewalls, ribs, or similar obstructions do not affect airgaps when spaced from the inside edge of the spout opening a distance greater than three times the diameter of the effective opening for a single wall, or a distance greater than four times the effective opening for two intersecting walls.

<sup>2</sup> Vertical walls, ribs, or similar obstructions extending from the water surface to or above the horizontal plane of the spout opening other than specified in Note 1 above. The effect of three or more such vertical walls or ribs has not been determined. In such cases, the airgap shall be measured from the top of the wall.

<sup>3</sup> The effective opening shall be the minimum cross-sectional area at the seat of the control valve or the supply pipe or tubing that feeds the device or outlet. If two or more lines supply one outlet, the effective opening shall be the sum of the cross-sectional areas of the individual supply lines or the area of the single outlet, whichever is smaller.

<sup>4</sup> Airgaps less than one (1) inch (25.4 mm) shall be approved only as a permanent part of a listed assembly that has been tested under actual backflow conditions with vacuums of 0 to 25 inches (635 mm) of mercury.

**601.7.2** *The vehicle cleaning and sanitizing area shall be provided with adequate line steam, producing a temperature of at least 180°F (82°C), or other suitable method.*

**601.7.3** *Hose connections with steam and water-mixing valves of hot-and cold-water hose connections shall be provided at locations throughout the building and at unloading and vehicle cleaning slabs.*

**601.8 [AGR] Renderers.** *This area shall be provided with live steam or other method of sanitizing vehicles.*

**601.9 [AGR] Horse Meat and Pet Food Establishments.**

**601.9.1** *The water supply shall be ample, clean and potable, with facilities for its distribution in the plant, and its protection against contamination and pollution.*

**601.9.1.1** *Equipment using potable water shall be so installed as to prevent backsiphonage into the potable water system.*

**601.9.1.2** *Nonpotable water is permitted only in those parts of official plants where no edible product is handled or prepared, and then only for limited purposes, such as on ammonia condensers not connected with the potable water supply, in vapor lines serving inedible product rendering tanks, in connection with equipment used for washing and washing inedible products preparatory to tanking, and in sewer lines for moving heavy solids in sewage. In all cases, nonpotable water lines shall be clearly identified and shall not be cross connected with the potable water supply.*

*Exception: Cross connection is permitted if this is necessary for fire protection, and such connection is of a type with a break to ensure against accidental contamination, and is approved by local authorities or by the Department.*

**601.9.2** *All pipelines, reservoirs, tanks, cooling towers and like equipment employed in handling reused water shall be constructed and installed so as to facilitate their cleaning and inspection.*

**601.9.3** *Hot water for cleaning rooms and equipment shall be delivered under pressure to outlets and shall be of such temperature as to accomplish a thorough cleanup.*

**601.9.3.1** *An ample supply of water at not less than 180°F (82°C) shall be available when used for sanitizing purposes.*

**601.9.4** *Pens, alleys and runways shall have hose connections for cleanups purposes.*

## **602.0 Unlawful Connections**

**602.1** No installation of potable water supply piping or part thereof shall be made in such a manner that it will be possible for used, unclean, polluted, or contaminated water, mixtures, or substances to enter

any portion of such piping from any tank, receptor, equipment, or plumbing fixture by reason of backsiphonage, suction, or any other cause, either during normal use and operation thereof, or when any such tank, receptor, equipment, or plumbing fixture is flooded or subject to pressure in excess of the operating pressure in the hot or cold water piping.

**602.2** No person shall make a connection or allow one to exist between pipes or conduits carrying domestic water supplied by any public or private water service system, and any pipes, conduits, or fixtures containing or carrying water from any other source or containing or carrying water that has been used for any purpose whatsoever, or any piping carrying chemicals, liquids, gases, or any substances whatsoever, unless there is provided a backflow prevention device approved for the potential hazard and maintained in accordance with this code. Each point of use shall be separately protected when potential cross-contamination of individual units exists.

**602.3** No plumbing fixture, device, or construction shall be installed or maintained or shall be connected to any domestic water supply when such installation or connection may provide a possibility of polluting such water supply or may provide a cross-connection between a distributing system of water for drinking and domestic purposes and water that may become contaminated by such plumbing fixture, device, or construction unless there is provided a backflow prevention device approved for the potential hazard.

**602.4** No water piping supplied by any private water supply system shall be connected to any other source of supply without the approval of the Authority Having Jurisdiction, Health Department, or other department having jurisdiction.

## **603.0 Cross-Connection Control.**

Cross-connection control shall be provided in accordance with the provisions of this chapter.

No person shall install any water-operated equipment or mechanism, or use any water-treating chemical or substance, if it is found that such equipment, mechanism, chemical, or substance may cause pollution or contamination of the domestic water supply. Such equipment or mechanism may be permitted only when equipped with an approved backflow prevention device or assembly.

**603.1 Approval of Devices or Assemblies.** Before any device or assembly is installed for the prevention of backflow, it shall have first been approved by the Authority Having Jurisdiction. Devices or assemblies shall be tested for conformity with recognized standards or other standards acceptable to the Authority Having Jurisdiction that are consistent with the