

Chapter **5**

Water, Plumbing, and Waste

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5-1 WATER

Subparts

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Source

5-101.11 Approved System.*

DRINKING WATER shall be obtained from an APPROVED source that is:

(A) A PUBLIC WATER SYSTEM; or

(B) A nonPUBLIC WATER SYSTEM that is constructed, maintained, and operated according to LAW.

5-101.12 System Flushing and Disinfection.*

A DRINKING WATER system shall be flushed and disinfected before being placed in service after construction, repair, or modification and after an emergency situation, such as a flood, that may introduce contaminants to the system.

5-101.13 Bottled Drinking Water.*

BOTTLED DRINKING WATER used or sold in a FOOD ESTABLISHMENT shall be obtained from APPROVED sources in accordance with 21 CFR 129 - Processing and Bottling of Bottled DRINKING WATER.

Quality

5-102.11 Standards.*

Except as specified under § 5-102.12:

(A) Water from a PUBLIC WATER SYSTEM shall meet 40 CFR 141 - National Primary Drinking Water Regulations and state DRINKING WATER quality standards; and

(B) Water from a nonPUBLIC WATER SYSTEM shall meet state DRINKING WATER quality standards.

5-102.12 Nondrinking Water.*

(A) A nonDRINKING WATER supply shall be used only if its use is APPROVED.

(B) NonDRINKING WATER shall be used only for nonculinary purposes such as air conditioning, nonFOOD EQUIPMENT cooling, fire protection, and irrigation.

5-102.13 Sampling.

Except when used as specified under § 5-102.12, water from a nonPUBLIC WATER SYSTEM shall be sampled and tested at least annually and as required by state water quality regulations.

5-102.14 Sample Report.

The most recent sample report for the nonPUBLIC WATER SYSTEM shall be retained on file in the FOOD ESTABLISHMENT or the report shall be maintained as specified by state water quality regulations.

Quantity and Availability

5-103.11 Capacity.*

(A) The water source and system shall be of sufficient capacity to meet the peak water demands of the FOOD ESTABLISHMENT.

(B) Hot water generation and distribution systems shall be sufficient to meet the peak hot water demands throughout the FOOD ESTABLISHMENT.

5-103.12 Pressure.

Water under pressure shall be provided to all fixtures, EQUIPMENT, and nonFOOD EQUIPMENT that are required to use water *except that water supplied as specified under §§ 5-104.12(A) and (B) to a TEMPORARY FOOD ESTABLISHMENT or in response to a temporary interruption of a water supply need not be under pressure.*

Distribution, Delivery, and Retention

5-104.11 System.

Water shall be received from the source through the use of:

- (A) An APPROVED public water main; or
- (B) One or more of the following that shall be constructed, maintained, and operated according to LAW:
 - (1) Nonpublic water main, water pumps, pipes, hoses, connections, and other appurtenances,
 - (2) Water transport vehicles, and
 - (3) Water containers.

5-104.12 Alternative Water Supply.

Water meeting the requirements specified under Subparts 5-101, 5-102, and 5-103 shall be made available for a mobile facility, for a TEMPORARY FOOD ESTABLISHMENT without a permanent water supply, and for a FOOD ESTABLISHMENT with a temporary interruption of its water supply through:

- (A) A supply of containers of commercially BOTTLED DRINKING WATER;
- (B) One or more closed portable water containers;
- (C) An enclosed vehicular water tank;
- (D) An on-PREMISES water storage tank; or
- (E) Piping, tubing, or hoses connected to an adjacent APPROVED source.

5-2 PLUMBING SYSTEM

Subparts

- 5-201 Materials**
- 5-202 Design, Construction, and Installation**
- 5-203 Numbers and Capacities**
- 5-204 Location and Placement**
- 5-205 Operation and Maintenance**

Materials

5-201.11 Approved.*

(A) A PLUMBING SYSTEM and hoses conveying water shall be constructed and repaired with APPROVED materials according to LAW.

(B) A water filter shall be made of SAFE MATERIALS.

Design, Construction, and Installation

5-202.11 Approved System and Cleanable Fixtures.*

(A) A PLUMBING SYSTEM shall be designed, constructed, and installed according to LAW.

(B) A PLUMBING FIXTURE such as a handwashing facility, toilet, or urinal shall be EASILY CLEANABLE.^N

5-202.12 Handwashing Facility, Installation.

(A) A handwashing lavatory shall be equipped to provide water at a temperature of at least 38°C (100°F) through a mixing valve or combination faucet.

(B) A steam mixing valve may not be used at a handwashing lavatory.

(C) A self-closing, slow-closing, or metering faucet shall provide a flow of water for at least 15 seconds without the need to reactivate the faucet.

(D) An automatic handwashing facility shall be installed in accordance with manufacturer's instructions.

5-202.13 Backflow Prevention, Air Gap.*

An air gap between the water supply inlet and the flood level rim of the PLUMBING FIXTURE, EQUIPMENT, or nonFOOD EQUIPMENT shall be at least twice the diameter of the water supply inlet and may not be less than 25 mm (1 inch).

5-202.14 Backflow Prevention Device, Design Standard.

A backflow or backsiphonage prevention device installed on a water supply system shall meet American Society of Sanitary Engineering (A.S.S.E.) standards for construction, installation, maintenance, inspection, and testing for that specific application and type of device.

5-202.15 Conditioning Device, Design.

A water filter, screen, and other water conditioning device installed on water lines shall be designed to facilitate disassembly for periodic servicing and cleaning. A water filter element shall be of the replaceable type.

Numbers and Capacities

5-203.11 Handwashing Facilities.*

(A) Except as specified in ¶¶ (B) and (C) of this section, at least 1 handwashing lavatory, a number of handwashing lavatories necessary for their convenient use by EMPLOYEES in areas specified under § 5-204.11, and not fewer than the number of handwashing lavatories required by LAW shall be provided.

(B) *If APPROVED and capable of removing the types of soils encountered in the FOOD operations involved, automatic handwashing facilities may be substituted for handwashing lavatories in a FOOD ESTABLISHMENT that has at least one handwashing lavatory.*

(C) *If APPROVED, when FOOD exposure is limited and handwashing lavatories are not conveniently available, such as in some mobile or TEMPORARY FOOD ESTABLISHMENTS or at some VENDING MACHINE LOCATIONS, EMPLOYEES may use chemically treated towelettes for handwashing.*

5-203.12 Toilets and Urinals.*

At least one toilet and not fewer than the toilets required by LAW shall be provided. If authorized by LAW and urinals are substituted for toilets, the substitution shall be done as specified in LAW.

5-203.13 Service Sink.

At least one service sink or one curbed cleaning facility equipped with a floor drain shall be provided and conveniently located for the cleaning of mops or similar wet floor cleaning tools and for the disposal of mop water and similar liquid waste.

5-203.14 Backflow Prevention Device, When Required.*

A PLUMBING SYSTEM shall be installed to preclude backflow of a solid, liquid, or gas contaminant into the water supply system at each point of use at the FOOD ESTABLISHMENT,

including on a hose bibb if a hose is attached or on a hose bibb if a hose is not attached and backflow prevention is required by LAW, by:

- (A) Providing an air gap as specified under § 5-202.13; or
- (B) Installing an APPROVED backflow prevention device as specified under § 5-202.14.

5-203.15 Backflow Prevention Device, Carbonator.*

(A) If not provided with an air gap as specified under § 5-203.13, a double check valve with an intermediate vent preceded by a screen of not less than 100 mesh to 25.4mm (100 mesh to 1 inch) shall be installed upstream from a carbonating device and downstream from any copper in the water supply line.

(B) *A single or double check valve attached to the carbonator need not be of the vented type if an air gap or vented backflow prevention device has been otherwise provided as specified under ¶ (A) of this section.*

Location and Placement

5-204.11 Handwashing Facilities.*

A handwashing facility shall be located:

- (A) To allow convenient use by EMPLOYEES in FOOD preparation, FOOD dispensing, and WAREWASHING areas; and
- (B) In, or immediately adjacent to, toilet rooms.

5-204.12 Backflow Prevention Device, Location.

A backflow prevention device shall be located so that it may be serviced and maintained.

5-204.13 Conditioning Device, Location.

A water filter, screen, and other water conditioning device installed on water lines shall be located to facilitate disassembly for periodic servicing and cleaning.

Operation and Maintenance

5-205.11 Using a Handwashing Facility.

- (A) A handwashing facility shall be maintained so that it is accessible at all times for EMPLOYEE use.
- (B) A handwashing facility may not be used for purposes other than handwashing.

(C) An automatic handwashing facility shall be used in accordance with manufacturer's instructions.

5-205.12 Prohibiting a Cross Connection.*

(A) *Except as specified in 9 CFR 308.3(d) for firefighting*, a PERSON may not create a cross connection by connecting a pipe or conduit between the DRINKING WATER system and a nonDRINKING WATER SYSTEM or a water system of unknown quality.

(B) The piping of a nonDRINKING WATER system shall be durably identified so that it is readily distinguishable from piping that carries DRINKING WATER.^N

5-205.13 Scheduling Inspection and Service for a Water System Device.

A device such as a water treatment device or backflow preventer shall be scheduled for inspection and service, in accordance with manufacturer's instructions and as necessary to prevent device failure based on local water conditions, and records demonstrating inspection and service shall be maintained by the PERSON IN CHARGE.

5-205.14 Water Reservoir of Fogging Devices, Cleaning.*

(A) A reservoir that is used to supply water to a device such as a produce fogger shall be:

- (1) Maintained in accordance with manufacturer's specifications; and
- (2) Cleaned in accordance with manufacturer's specifications or according to the procedures specified under ¶ (B) of this section, whichever is more stringent.

(B) Cleaning procedures shall include at least the following steps and shall be conducted at least once a week:

- (1) Draining and complete disassembly of the water and aerosol contact parts;
- (2) Brush-cleaning the reservoir, aerosol tubing, and discharge nozzles with a suitable detergent solution;
- (3) Flushing the complete system with water to remove the detergent solution and particulate accumulation; and
- (4) Rinsing by immersing, spraying, or swabbing the reservoir, aerosol tubing, and discharge nozzles with at least 50 mg/L hypochlorite solution.

5-205.15 System Maintained in Good Repair.*

A PLUMBING SYSTEM shall be:

- (A) Repaired according to LAW; and

(B) Maintained in good repair.^S

5-3 MOBILE WATER TANK AND MOBILE FOOD ESTABLISHMENT WATER TANK

Subparts

- 5-301 Materials**
- 5-302 Design and Construction**
- 5-303 Numbers and Capacities**
- 5-304 Operation and Maintenance**

Materials

5-301.11 Approved.

Materials that are used in the construction of a mobile water tank, mobile FOOD ESTABLISHMENT water tank, and appurtenances shall be:

- (A) Safe;
- (B) Durable, CORROSION-RESISTANT, and nonabsorbent; and
- (C) Finished to have a SMOOTH, EASILY CLEANABLE surface.

Design and Construction

5-302.11 Enclosed System, Sloped to Drain.

A mobile water tank shall be:

- (A) Enclosed from the filling inlet to the discharge outlet; and
- (B) Sloped to an outlet that allows complete drainage of the tank.

5-302.12 Inspection and Cleaning Port, Protected and Secured.

If a water tank is designed with an access port for inspection and cleaning, the opening shall be in the top of the tank and:

- (A) Flanged upward at least 13 mm (one-half inch); and
- (B) Equipped with a port cover assembly that is:
 - (1) Provided with a gasket and a device for securing the cover in place, and

(2) Flanged to overlap the opening and sloped to drain.

5-302.13 "V" Type Threads, Use Limitation.

A fitting with "V" type threads on a water tank inlet or outlet shall be allowed only when a hose is permanently attached.

5-302.14 Tank Vent, Protected.

If provided, a water tank vent shall terminate in a downward direction and shall be covered with:

- (A) 16 mesh to 25.4 mm (16 mesh to 1 inch) screen or equivalent when the vent is in a protected area; or
- (B) A protective filter when the vent is in an area that is not protected from windblown dirt and debris.

5-302.15 Inlet and Outlet, Sloped to Drain.

- (A) A water tank and its inlet and outlet shall be sloped to drain.
- (B) A water tank inlet shall be positioned so that it is protected from contaminants such as waste discharge, road dust, oil, or grease.

5-302.16 Hose, Construction and Identification.

A hose used for conveying DRINKING WATER from a water tank shall be:

- (A) Safe;
- (B) Durable, CORROSION-RESISTANT, and nonabsorbent;
- (C) Resistant to pitting, chipping, crazing, scratching, scoring, distortion, and decomposition;
- (D) Finished with a SMOOTH interior surface; and
- (E) Clearly and durably identified as to its use if not permanently attached.

Numbers and Capacities

5-303.11 Filter, Compressed Air.

A filter that does not pass oil or oil vapors shall be installed in the air supply line between the compressor and DRINKING WATER system when compressed air is used to pressurize the water tank system.

5-303.12 Protective Cover or Device.

A cap and keeper chain, closed cabinet, closed storage tube, or other APPROVED protective cover or device shall be provided for a water inlet, outlet, and hose.

5-303.13 Mobile Food Establishment Tank Inlet.

A mobile FOOD ESTABLISHMENT's water tank inlet shall be:

- (A) 19.1 mm (three-fourths inch) in inner diameter or less; and
- (B) Provided with a hose connection of a size or type that will prevent its use for any other service.

Operation and Maintenance

5-304.11 System Flushing and Disinfection.*

A water tank, pump, and hoses shall be flushed and SANITIZED before being placed in service after construction, repair, modification, and periods of nonuse.

5-304.12 Using a Pump and Hoses, Backflow Prevention.

A PERSON shall operate a water tank, pump, and hoses so that backflow and other contamination of the water supply are prevented.

5-304.13 Protecting Inlet, Outlet, and Hose Fitting.

If not in use, a water tank and hose inlet and outlet fitting shall be protected using a cover or device as specified under § 5-303.12.

5-304.14 Tank, Pump, and Hoses, Dedication.

- (A) Except as specified in ¶ (B) of this section, a water tank, pump, and hoses used for conveying DRINKING WATER shall be used for no other purpose.
- (B) *Water tanks, pumps, and hoses APPROVED for liquid FOODS may be used for conveying DRINKING WATER if they are cleaned and SANITIZED before they are used to convey water.*

5-4 SEWAGE, OTHER LIQUID WASTE, AND RAINWATER

Subparts

5-401	Mobile Holding Tank
5-402	Retention, Drainage, and Delivery
5-403	Disposal Facility

Mobile Holding Tank

5-401.11 Capacity and Drainage.

A SEWAGE holding tank in a mobile FOOD ESTABLISHMENT shall be:

- (A) Sized 15 percent larger in capacity than the water supply tank; and
- (B) Sloped to a drain that is 25 mm (1 inch) in inner diameter or greater, equipped with a shut-off valve.

Retention, Drainage, and Delivery

5-402.10 Establishment Drainage System.

FOOD ESTABLISHMENT drainage systems, including grease traps, that convey SEWAGE shall be designed and installed as specified under ¶ 5-202.11(A).

5-402.11 Backflow Prevention.*

- (A) Except as specified in ¶¶ (B) and (C) of this section, a direct connection may not exist between the SEWAGE system and a drain originating from EQUIPMENT in which FOOD, portable EQUIPMENT, or UTENSILS are placed.
- (B) If allowed by LAW, a WAREWASHING machine may have a direct connection between its waste outlet and a floor drain when the machine is located within 1.5 m (5 feet) of a trapped floor drain and the machine outlet is connected to the inlet side of a properly vented floor drain trap.
- (C) *If allowed by LAW, a WAREWASHING or culinary sink may have a direct connection.*

5-402.12 Grease Trap.

If used, a grease trap shall be located to be easily accessible for cleaning.

5-402.13 Conveying Sewage.*

SEWAGE shall be conveyed to the point of disposal through an APPROVED sanitary SEWAGE system or other system, including use of SEWAGE transport vehicles, waste retention tanks, pumps, pipes, hoses, and connections that are constructed, maintained, and operated according to LAW.

5-402.14 Removing Mobile Food Establishment Wastes.

SEWAGE and other liquid wastes shall be removed from a mobile FOOD ESTABLISHMENT at an APPROVED waste SERVICING AREA or by a SEWAGE transport vehicle in such a way that a public health HAZARD or nuisance is not created.

5-402.15 Flushing a Waste Retention Tank.

A tank for liquid waste retention shall be thoroughly flushed and drained in a sanitary manner during the servicing operation.

Disposal Facility

5-403.11 Approved Sewage Disposal System.*

SEWAGE shall be disposed through an APPROVED facility that is:

- (A) A public SEWAGE treatment plant; or
- (B) An individual SEWAGE disposal system that is sized, constructed, maintained, and operated according to LAW.

5-403.12 Other Liquid Wastes and Rainwater.

Condensate drainage and other nonSEWAGE liquids and rainwater shall be drained from point of discharge to disposal according to LAW.

5-5 REFUSE, RECYCLABLES, AND RETURNABLES

Subparts

- 5-501 Facilities on the Premises**
- 5-502 Removal**
- 5-503 Facilities for Disposal and Recycling**

Facilities on the Premises

5-501.10 Indoor Storage Area.

If located within the FOOD ESTABLISHMENT, a storage area for REFUSE, recyclables, and returnables shall meet the requirements specified under §§ 6-101.11, 6-201.11 - 6-201.18, 6-202.15, and 6-202.16.

5-501.11 Outdoor Storage Surface.

An outdoor storage surface for REFUSE, recyclables, and returnables shall be constructed of nonabsorbent material such as concrete or asphalt and shall be SMOOTH, durable, and sloped to drain.

5-501.12 Outdoor Enclosure.

If used, an outdoor enclosure for REFUSE, recyclables, and returnables shall be constructed of durable and cleanable materials.

5-501.13 Receptacles.

(A) Except as specified in ¶ (B) of this section, receptacles and waste handling units for REFUSE, recyclables, and returnables and for use with materials containing FOOD residue shall be durable, cleanable, insect- and rodent-resistant, leakproof, and nonabsorbent.

(B) *Plastic bags and wet strength paper bags may be used to line receptacles for storage inside the FOOD ESTABLISHMENT, or within closed outside receptacles.*

5-501.14 Receptacles in Vending Machines.

A REFUSE receptacle may not be located within a VENDING MACHINE, *except that a receptacle for BEVERAGE bottle crown closures may be located within a VENDING MACHINE.*

5-501.15 Outside Receptacles.

(A) Receptacles and waste handling units for REFUSE, recyclables, and returnables used with materials containing FOOD residue and used outside the FOOD ESTABLISHMENT shall be designed and constructed to have tight-fitting lids, doors, or covers.

(B) Receptacles and waste handling units for REFUSE and recyclables such as an on-site compactor shall be installed so that accumulation of debris and insect and rodent attraction and harborage are minimized and effective cleaning is facilitated around and, if the unit is not installed flush with the base pad, under the unit.

5-501.16 Storage Areas, Rooms, and Receptacles, Capacity and Availability.

(A) An inside storage room and area and outside storage area and enclosure, and receptacles shall be of sufficient capacity to hold REFUSE, recyclables, and returnables that accumulate.

(B) A receptacle shall be provided in each area of the FOOD ESTABLISHMENT or PREMISES where REFUSE is generated or commonly discarded, or where recyclables or returnables are placed.

(C) If disposable towels are used at handwashing lavatories, a waste receptacle shall be located at each lavatory or group of adjacent lavatories.

5-501.17 Toilet Room Receptacle, Covered.

A toilet room used by females shall be provided with a covered receptacle for sanitary napkins.

5-501.18 Cleaning Implements and Supplies.

(A) Except as specified in ¶ (B) of this section, suitable cleaning implements and supplies such as high pressure pumps, hot water, steam, and detergent shall be provided as necessary for effective cleaning of receptacles and waste handling units for REFUSE, recyclables, and returnables.

(B) *If APPROVED, off-PREMISES-based cleaning services may be used if on-PREMISES cleaning implements and supplies are not provided.*

5-501.19 Storage Areas, Redeeming Machines, Receptacles and Waste Handling Units, Location.

(A) An area designated for REFUSE, recyclables, returnables, and, except as specified in ¶ (B) of this section, a redeeming machine for recyclables or returnables shall be located so that it is separate from FOOD, EQUIPMENT, UTENSILS, LINENS, and SINGLE-SERVICE and SINGLE-USE ARTICLES and a public health HAZARD or nuisance is not created.

(B) *A redeeming machine may be located in the PACKAGED FOOD storage area or CONSUMER area of a FOOD ESTABLISHMENT if FOOD, EQUIPMENT, UTENSILS, LINENS, and SINGLE-SERVICE and SINGLE-USE ARTICLES are not subject to contamination from the machines and a public health HAZARD or nuisance is not created.*

(C) The location of receptacles and waste handling units for REFUSE, recyclables, and returnables may not create a public health HAZARD or nuisance or interfere with the cleaning of adjacent space.

5-501.110 Storing Refuse, Recyclables, and Returnables.

REFUSE, recyclables, and returnables shall be stored in receptacles or waste handling units so that they are inaccessible to insects and rodents.

5-501.111 Areas, Enclosures, and Receptacles, Good Repair.

Storage areas, enclosures, and receptacles for REFUSE, recyclables, and returnables shall be maintained in good repair.

5-501.112 Outside Storage Prohibitions.

(A) Except as specified in ¶ (B) of this section, REFUSE receptacles not meeting the requirements specified under ¶ 5-501.13(A) such as receptacles that are not rodent-resistant, unprotected plastic bags and paper bags, or baled units that contain materials with FOOD residue may not be stored outside.

(B) *Cardboard or other packaging material that does not contain FOOD residues and that is awaiting regularly scheduled delivery to a recycling or disposal site may be stored*

outside without being in a covered receptacle if it is stored so that it does not create a rodent harborage problem.

5-501.113 Covering Receptacles.

Receptacles and waste handling units for REFUSE, recyclables, and returnables shall be kept covered:

(A) Inside the FOOD ESTABLISHMENT if the receptacles and units:

- (1) Contain FOOD residue and are not in continuous use; or
- (2) After they are filled; and

(B) With tight-fitting lids or doors if kept outside the FOOD ESTABLISHMENT.

5-501.114 Using Drain Plugs.

Drains in receptacles and waste handling units for REFUSE, recyclables, and returnables shall have drain plugs in place.

5-501.115 Maintaining Refuse Areas and Enclosures.

A storage area and enclosure for REFUSE, recyclables, or returnables shall be maintained free of unnecessary items, as specified under § 6-501.114, and clean.

5-501.116 Cleaning Receptacles.

(A) Receptacles and waste handling units for REFUSE, recyclables, and returnables shall be thoroughly cleaned in a way that does not contaminate FOOD, EQUIPMENT, UTENSILS, LINENS, or SINGLE-SERVICE and SINGLE-USE ARTICLES, and waste water shall be disposed of as specified under § 5-402.14.

(B) Soiled receptacles and waste handling units for REFUSE, recyclables, and returnables shall be cleaned at a frequency necessary to prevent them from developing a buildup of soil or becoming attractants for insects and rodents.

Removal

5-502.11 Frequency.

REFUSE, recyclables, and returnables shall be removed from the PREMISES at a frequency that will minimize the development of objectionable odors and other conditions that attract or harbor insects and rodents.

5-502.12 Receptacles or Vehicles.

REFUSE, recyclables, and returnables shall be removed from the PREMISES by way of:

(A) Portable receptacles that are constructed and maintained according to LAW; or

(B) A transport vehicle that is constructed, maintained, and operated according to LAW.

Facilities for Disposal and Recycling

5-503.11 Community or Individual Facility.

Solid waste not disposed of through the SEWAGE system such as through grinders and pulpers shall be recycled or disposed of in an APPROVED public or private community recycling or REFUSE facility; or solid waste shall be disposed of in an individual REFUSE facility such as a landfill or incinerator which is sized, constructed, maintained, and operated according to LAW.

