

**2019~~21~~ DENVER AMENDMENTS TO
THE 2018~~21~~ EDITION OF THE
INTERNATIONAL PLUMBING
CODE
AND APPENDICES AS PUBLISHED
BY THE INTERNATIONAL CODE
COUNCIL (ICC)**

The content of the sections in this Code that begin with a letter or letters designations are maintained by other City or State entities.

[DOTI]	Denotes Department of Transportation and Infrastructure
[EB]	Existing Buildings
[CC]	City Council
[EH]	Environmental Health
[CPB]	Colorado Plumbing Board
[DW]	Denver Water
[FCWA]	Federal Clean Water Act

**CHAPTER 1
ADMINISTRATION**

**SECTION 101
GENERAL**

Section 101.1 Title is amended by inserting “City and County of Denver” for the name of the jurisdiction.

Sections 103 through 106, 108 and 109 are amended by deleting these sections in their entirety. The “Administration of the ~~2019~~21 Denver Building Code” provisions shall govern.

CHAPTER 2 DEFINITIONS

SECTION 202 GENERAL DEFINITIONS

Section 202 General definitions is amended by adding the following definition:

SERVICE SINK: A sink or receptor intended for custodial use that is capable of being used to fill and empty a janitor's bucket. Included are mop sinks, laundry sinks, utility sinks and similar fixtures but not a kitchen sink or lav.

CHAPTER 3 GENERAL REGULATIONS

SECTION 301 GENERAL

[EB] Section 301.8 Existing buildings is added as follows:

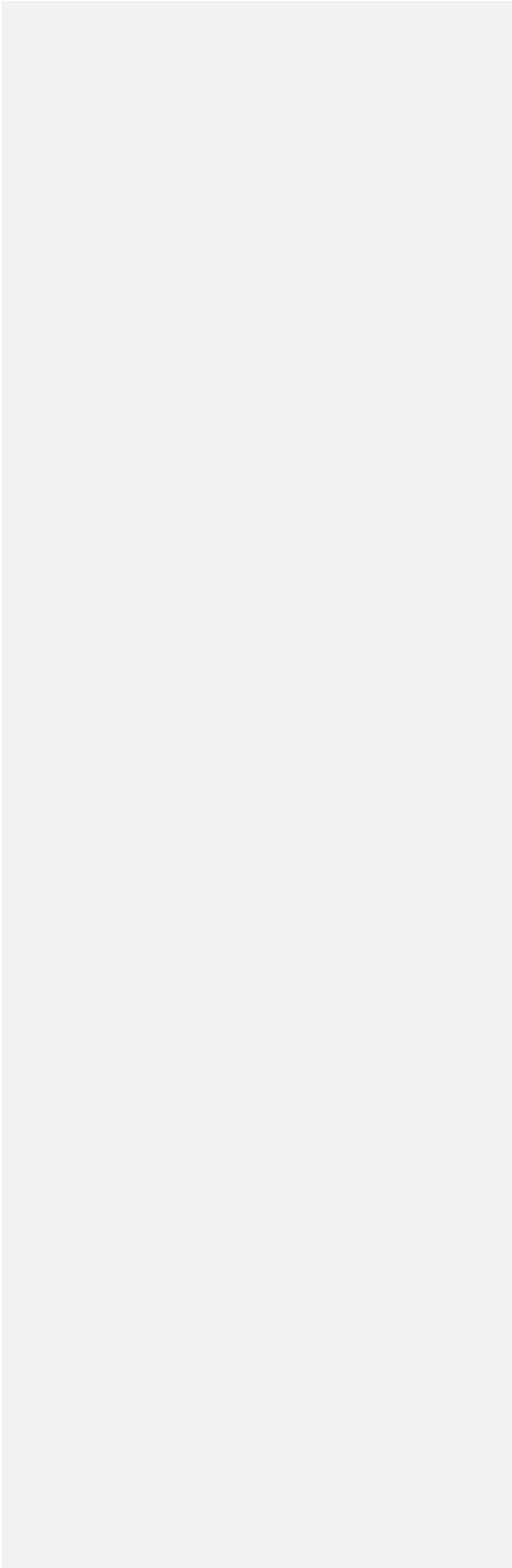
301.8 Existing buildings. Plumbing in existing buildings may have their use continued, if such use was legal at the time of enforcement of the Plumbing Code in force at the time of construction and such use is not detrimental to the health or safety requirements of current occupancy or use.

Any change in the use or occupancy of any existing building or structure shall comply with the provisions of the *International Plumbing Code*. Any deviations may be *approved* by the *building official* if they are determined to not be detrimental to health or safety requirements.

SECTION 306 TRENCHING, EXCAVATION AND BACKFILL

[DOTI] Section 306.2.4 Trench safety is added as follows:

306.2.4 Trench safety. All excavations shall follow guidelines as required by OSHA.



CHAPTER 4 FIXTURE, FAUCETS AND FIXTURE FITTINGS

SECTION 401 GENERAL

[CC] Section 401.3.1 Rain sensing is added as follows:

401.3.1 Rain sensing. An *approved* rain sensing system shall be installed on all new automatic lawn sprinkler systems. Said rain sensing system shall be capable of turning the lawn sprinkler system off in the event adequate rain has fallen.

[CC] Section 401.3.2 Metering is added as follows:

401.3.2 Metering. Each individual dwelling unit shall be metered in such a way that all water used by said dwelling unit can be recorded and billed. The maintenance and repair of said meters shall be the responsibility of the owner of the metered property.

Exception:

Where individual dwelling units are served by a domestic central water heating system.

SECTION 403 MINIMUM PLUMBING FACILITIES

Section ~~403.1.1~~ Fixture calculations is amended by ~~adding~~ replacing exception 2 as follows

Exceptions:

2. Calculations of fixtures provided in toilet and bathing rooms identified as all-gender shall be permitted to sum fractional numbers for each sex and then round up to the next whole number. Fixtures shall contribute equally to the number of male and female fixtures required. For occupancies where the required number of female fixtures is more than the required number of male fixtures, the additional fixtures are permitted provided in all-gender facilities.

Commented [SM1]: This exception is different than the new Exception 2 in the IPC. Would suggest deleting first sentence of new exception and replacing it with this, but keep the second part of the IPC exception that deals with A117.

Commented [SM2R1]: Just copied exception 2 from IBC 2902.1.1 for consistency.

Section 403.1.2 Single-user toilet facility and bathing room fixtures is replaced in its entirety as follows:

403.1.2 Toilet and bathing room fixture designation. Toilet and bathing fixtures shall be located in single-user or multi-user toilet and bathing rooms and shall be identified for use by sex or gender in accordance with Section 2902.1.2.1 and Section 2902.1.2.2 of the *International Building Code*.

403.1.2.1 Single-user toilet and bathing rooms. A single-user toilet and bathing room shall contain not more than one water closet, one bathtub and one shower. Plumbing fixtures provided in single-user toilet and bathing rooms shall contribute toward the total number of required plumbing fixtures as calculated per Section 2902.1.1 Exception 2 of the *International Building Code*. Single-user toilet and bathing rooms, including family or assisted-use toilet and bathing rooms shall be identified for use by all genders. Toilet fixtures shall not be in separate compartments.

Exception: In addition to a single water closet, one child-height water closet and one urinal shall be permitted to be located in a single-user toilet or bathing room. Not more than one water closet provided for each single-user toilet or bathing room shall contribute toward the total number of required plumbing fixtures.

403.1.2.2 Multi-user toilet and bathing rooms. Multi-user toilet and bathing rooms with not less than two water closet compartments, or one water closet compartment and one urinal, or two bathing fixtures shall be provided as separate male and female facilities. Plumbing fixtures provided in multi-user toilet and bathing rooms shall contribute toward the total number of required plumbing fixtures for the sex to which they are designated.

Exception: Multi-user toilet rooms complying with Section 2902.7 of the *International Building Code* shall be permitted to be identified for use by all genders. Water closets and lavatories provided in multi-user toilet rooms identified for use by all genders shall contribute toward the total number of required plumbing fixtures as calculated per Section 2902.1.1 Exception 2. Where both separate and all-gender facilities are provided, separate independent multi-user male and female facilities shall be provided.

Section 403.1.3 Lavatory distribution is replaced as follows:

403.1.3 Lavatory Distribution. Where two or more toilet rooms are provided, the required number of lavatories shall be distributed proportionally to the required number of water closets. The required lavatories shall be permitted to be located within water closet compartments provided not less than the larger of one-half of the required lavatories or two lavatories shall be located outside of the water closet compartments.

Section 403.2 Separate facilities and its exception is replaced in its entirety as follows:

403.2 Minimum number of toilet facilities and bathing rooms. Where plumbing fixtures are required, a minimum of two *accessible* toilet facilities and two *accessible* bathing rooms shall be provided. Section 1109.2 Exception 3 of the *International Building Code* to *accessible* toilet facility and bathing rooms requirements shall not apply to the two *accessible* toilet facilities and bathing rooms required by this section.

Exceptions: The minimum number of two toilet facilities and two bathing rooms shall not be required for the following:

1. *Dwelling units and sleeping units.*
2. Structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer shall have not less than one *accessible* toilet and bathing room.
3. Mercantile occupancies in which the maximum occupant load is 100 or fewer shall have not less than one *accessible* toilet room.
4. Business occupancies in which the maximum occupant load is 25 or fewer shall have not less than one *accessible* toilet room.

Section 403.2.1 Family or assisted-use toilet facilities serving as separate facilities is deleted in its entirety.

[EH] Sections 403.3.2 “Prohibited toilet room location” shall be amended by adding the following to the last sentence:

Access to toilet rooms shall not be through food preparation areas, food storage areas, or ware washing or utensil storage areas, except for toilet rooms provided exclusively for the use of employees who primarily work in the food preparation area.

Section 403.3.6 Door locking is replaced in its entirety as follows:

403.3.6 Door locking. Door locking of toilet rooms, bathing rooms and toilet compartments shall comply with this section.

403.3.6.1 Multi-user toilet and bathing rooms. Where provided, an egress door for the room shall not be lockable from the inside of the room.

403.3.6.2 Single-user toilet and bathing rooms. The egress door for the room shall be lockable from the inside of the room for privacy. The privacy lock shall be in accordance with Sections 1010.1.9.1 and 1010.1.9.2 of the

International Building Code.

Exceptions:

1. Privacy locking shall not be required in sleeping units or dwelling units.
2. Where *approved* in Group I occupancies, toilet room privacy is not required where care recipients or detainees require observation for clinical or security reasons.

403.3.6.3 All-gender multi-user toilet rooms toilet compartment doors. Toilet compartment doors in all-gender multi-user toilet rooms shall have a privacy lock that has an indicator which notifies occupants on the exterior side of the door when the door is secured from the inside of the compartment.

Section 403.4. Signage is replaced as follows (subsection remains unchanged):

403.4 Signage. Required public facilities shall be provided with signs that designate the sex or gender as required by Section 2902.4.2 of the *International Building Code*. Signs shall be readily visible and located near the entrance to each toilet facility or bathing room. Signs for accessible toilet and bathing room facilities shall comply with Section 1114.2 of the *International Building Code*.

Commented [SM3]: See IBC P2902.4 signage.

[EH] Section 403.86 Location of service sinks is added to the end of Section 403.6as follows:

~~[EH] 403.8~~ **Location of service sinks.** Service sinks are required on each floor where toilet facilities are provided as defined below:

1. In food service facilities and occupancies,
2. In Group R occupancies that have food, drink, or ice for consumption or handling.

Section 403.67 All-gender multi-user toilet rooms and its subsections are added:

Commented [SM5]: New IMC Section 403.6 Service Sink Location. This 403.6 and subsections will now be 403.7

403.67 All-gender multi-user toilet rooms. Where all-gender multi-user toilet rooms are provided, they shall be in accordance with this Section.

403.6.1 Minimum number of fixtures. All-gender multi-user toilet rooms shall contain not less than six toilet compartments and three lavatories.

Exception: Where a single-user toilet room is clustered at a single location with an all-gender multi-user toilet room, the all-gender multi-user toilet room shall be permitted to contain not less than three toilet compartments and two lavatories.

403.6.2 Clearance. Toilet rooms shall be provided with a minimum clearance of not less than 60 inches (1 524 mm) between all opposing toilet compartments, walls, and lavatories.

Exception: Circulation areas serving not more than one plumbing fixture.

403.6.3 Toilet compartments. Water closets shall each be provided in individual compartments. Compartments shall be permitted to include walls, partitions and doors and shall begin at the floor and extend to the finished ceiling, have no sightlines when the door is in the closed position and have a lockable door in accordance with Section 2902.3.6.3 of the *International Building Code*. A urinal shall be permitted only within a water closet compartment; such urinal shall not contribute towards the total number of required plumbing fixtures.

Exceptions:

1. Compartment door undercuts shall be permitted to be not more than 0.5 inches. (13 mm).
2. Air transfer grills at the entrance side of a compartment shall be allowed where they are provided

- at a height not less than 80 inches (2 133.6 mm).
3. Partial-height toilet compartments are permitted where they begin at a height not more than 4.5 inches (114.3 mm) and extend to a height not less than 96 inches (2 438.4 mm) above the finished floor surface.

[EH] Section ~~403.78~~ **Toilet room accessories is added as follows:**

[EH] ~~403.78~~ **Toilet room accessories.** A minimum of one hand-drying facility shall be provided in each toilet room where lavatories are provided.

Commented [SM6]: New 403.6 section made this section now become 403.8.

Section 403.9 Drive-in facilities is added as follows:

403.9 Drive-in facilities. In addition to plumbing facilities otherwise required by Section 2902.1 of the *International Building Code*, public toilet facilities shall be provided to serve an occupant load equal to twice the number of parking stalls provided at drive-in restaurants and drive-in movie theaters.

SECTION 410

DRINKING FOUNTAINS

Section 410.4 Substitution is replaced as follows:

410.4 Substitution. Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies where drinking fountains are required, water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains that are in excess of the one high and one low drinking foundation required by Section 410.3.

SECTION 416

FOOD WASTE DISPOSER UNITS

Section 416.2 Domestic food waste disposer outlets is replaced as follows:

416.2 Domestic food waste disposer outlets. Domestic food waste outlets may be 1 ½ inch but shall be connected to a drain of at least 2-inch in diameter.

Section 416.3 Commercial food waste disposer waste outlets is replaced as follows:

416.3 Commercial food waste disposer waste outlets. Commercial food waste disposers shall be connected to a drain not less than 2 inches in diameter. Commercial food waste disposers shall be connected and trapped separately from any other fixtures or sink compartments.

[DOTI] Section 416.3.1 Discharge into grease interceptor is added as follows:

416.3.1 Discharge into grease interceptor. All food waste disposals in commercial kitchens shall be connected to and discharge into the grease interceptor.

Exception: Vegetable preparation area disposal may discharge to either sanitary or grease waste system.

CHAPTER 5 WATER HEATERS

SECTION 501 GENERAL

Section 501.2 is amended by adding the following:

When the heating system is inactive, one of the following methods of preventing stagnation of the water shall be employed:

1. The heating coil circulation pump shall be cycled on with valves open every 12 hours for a minimum of 5 minutes.
2. Other methods *approved by the building official*.

Section 501.7.1 ASME label required is added as follows:

501.7.1 ASME label required. When heated by steam or any other indirect means, hot water storage tanks shall comply with ASME construction requirements and bear the ASME label if nominal water containing capacity is 120 gal. or greater, or if either of the following limitations are exceeded: heat input of 200,000 Btu/hr; water temperature of 210° F.

SECTION 502 INSTALLATION

Section 502.2 Rooms used as a plenum is amended by adding an Exception:

Exception:

The water heater is a direct-vent appliance installed in accordance with the conditions of the listing and the manufacturer's instructions.

CHAPTER 6 WATER SUPPLY AND DISTRIBUTION

SECTION 603 WATER SERVICE

[DW] Section 603.1 Size of water service pipe is replaced as follows:

603.1 Size of water service pipe. The water service pipe shall be sized to supply water to the structure in the quantities and at the pressures required in this code. The minimum diameter of water service pipes shall be ¾ inch (19 mm). The service line shall remain the same size from tap through meter, then may be increased in size thereafter.

SECTION 608 PROTECTION OF POTABLE WATER SUPPLY

[DW, FCWA] Section 608.1.1 Backflow devices is added as follows:

608.1.1 Backflow devices. Backflow devices installed in water service lines shall be inspected and maintained per Denver Water/State of Colorado Clean Water Act, and the Colorado Cross-Connection Control Manual, most recent edition, as published by the Colorado Department of Public Health and Environment Water Quality Control Division.

Section 608.78 Valves and outlets prohibited below grade is amended by adding Exception 2 and numbering the existing Exception as Exception 1:

Exceptions:

2. Combination stop and waste valves may be installed underground if an *approved* means of removing wastewater from the seep hole is provided, such as a gravel bedding, etc.

Section 608.15.2.1 Relief port piping is ~~replaced~~ amended by adding the following sentence to the end of the section as follows:

~~608.15.2.1 Relief port piping. The termination of the piping from the relief port or air gap fitting of a backflow preventer shall discharge to an *approved* indirect waste receptor or to the outdoors where it will not cause damage or create a nuisance. If this discharge is by means of a pump, the pump shall be sized to handle the maximum discharge of the device.~~

Commented [SM7]: 608.15.2.1 expanded in 2021. suggest keeping all of it and just adding the last sentence that Denver currently added.

CHAPTER 7 SANITARY DRAINAGE

SECTION 703 BUILDING SEWER

[DOTI] Section 703.7 Slope of building sewer piping is added as follows:

703.7 Slope of building sewer piping. Building sewers shall be installed at uniform grade or slope. The minimum grade of building sewers shall be in accordance with Denver Wastewater Management Standards.

SECTION 708 CLEANOUTS

[DOTI] Section 708.1.3 Building drain and building sewer junction is replaced in its entirety as follows:

708.1.3 Building drain and building sewer junction. There shall be a cleanout at the junction of the building sewer. An *approved* two-way cleanout shall be used and brought up to finished grade. Minimum size shall be 4" or as approved by Denver Waste Water Management.

[DOTI] Section 708.1.4 Changes of direction is replaced in its entirety as follows:

708.1.4 Changes of direction. Cleanouts shall be installed at each change of direction of the building drain or horizontal waste or soil lines greater than 135 degrees (2.36 rad.). Where more than one change of direction occurs in a run of piping, only one cleanout shall be required for each 40 feet (12 192 mm) of developed length of the drainage piping.

SECTION 712 SUMPS AND EJECTORS

Section 712.4 Sewage pumps and sewage ejectors is amended as follows:

712.4 Sewage pumps and sewage ejectors. In public use occupancies, dual (duplex) sewage ejectors shall be required and shall be arranged to function independently in case of mechanical failure. All dual ejectors shall be alarmed to provide visual and/or audible notification of failure.

Exception:

A single ejector pump may be used in commercial application when it is used for a single use kitchen sink and/or dishwasher and/or disposer.

CHAPTER 8 INDIRECT/SPECIAL WASTE

SECTION 803 SPECIAL WASTES

[DW] Section 803.3 Cooling water is added as follows:

803.3 Cooling water. Domestic water used for cooling purposes shall be consumed or recycled and shall not be wasted to storm drain, above-ground drainage or below-ground drainage unless specifically approved by Denver Water.

Exception:

Diesel driven fire pump.

CHAPTER 9 VENTS

SECTION 903 VENT TERMINALS

Section ~~903~~**4.1** Roof extension is replaced in its entirety as follows:

903.1 Roof extension. All open vent pipes that extend through a roof shall be terminated at least 12 inches (305 mm) above the roof, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet (2134 mm) above the roof.

Commented [SM8]: New Section 903 added to IMC, this section is now 904..

CHAPTER 10 TRAPS, INTERCEPTORS AND SEPARATORS

SECTION 1003 INTERCEPTORS AND SEPARATORS

[DOTI] Section 1003.2 Approval is replaced in its entirety as follows:

1003.2 Approval. The size, type and location of each interceptor and of each separator shall be designed and installed in accordance with the manufacturers' instructions and the requirements of this section based on the anticipated conditions of use. Wastes that do not require treatment or separation shall not be discharged into any interceptor or separator. Prior to installation of any interceptor or separator and their associated piping, plans shall be submitted to Denver Wastewater Management for approval.

Section 1003.3 Grease interceptors is deleted in its entirety and replaced as follows:

1003.3 Grease interceptors. Grease interceptors shall comply with the requirements of the Wastewater Management Division, the Department of Public Health & Environment, and this section.

1003.3.1 Grease interceptors and automatic grease removal devices required. A grease interceptor shall be required to receive the drainage from all fixtures, drains, and equipment located in commercial kitchen areas and warewashing areas.

Exceptions:

- 1) Bars and beverage stations that are not within the kitchen area.
- 2) Where approved by the Wastewater Management Division.

1003.3.2 Food waste disposers. Food waste disposers in commercial kitchens shall be routed through the grease interceptor. Exception: Food waste disposers dedicated to vegetable preparation, and where other means of disposal of meats, oil, and grease waste is provided.

1003.3.3 Grease interceptor capacity. Grease interceptors shall be sized in accordance with the procedures established by the Wastewater Management Division.

1003.3.4 Hydromechanical grease interceptors and automatic grease removal devices. Hydromechanical grease interceptors and automatic grease removal devices shall not be allowed, except as *approved* under the provisions of Section 106 of the Administration of the Denver Building Code.

1003.3.5 Sewage ejectors. Sewage ejectors shall not be installed upstream of grease interceptors.

Section 1005 Abandoned interceptors is added as follows:

SECTION 1005 ABANDONED INTERCEPTORS

[DOTI] **1005.1 Abandoned food/oil grease interceptors and sand/oil interceptors.** All food/oil/grease interceptors and sand/oil interceptors that are to be abandoned or by-passed, shall have all piping removed, the structure capped or plugged and the lid broken as to make it unusable. It shall be pumped clean and filled with granular material to satisfy Denver Wastewater Management standards.

CHAPTER 11 STORM DRAINAGE

SECTION 1101 GENERAL

[DOT] Section 1101.1 Scope is replaced in its entirety as follows:

1101.1 Scope. The provisions of this chapter shall govern the materials, design, construction and installation of storm drainage. That portion of the storm drainage system from the building to the public storm sewer shall be as required by Denver Wastewater Management.

SECTION 1106 SIZE OF CONDUCTORS, LEADERS AND STORM DRAINS

Section 1106.1 General is replaced in its entirety as follows:

1106.1 General. The size of the vertical conductors and leaders, building storm sewers and any horizontal branches of such drains shall be based on ~~3-inch (7.6 mm)~~ 2.4 inch (61 mm) rainfall per hour per figure 1106.1(1).

Section 1106.2.1 ~~Alternative storm drain sizing~~ is added as follows:

1106.2.1 Alternative storm drain sizing. The size of the building *storm drain*, building storm sewer and horizontal branches having a slope of one-half unit or less vertically in 12 units horizontally (4-percent slope) shall be based on the maximum projected roof area in accordance with Table 1106.2.1. The minimum slope of horizontal branches shall be one-eighth unit vertical in 12 units horizontal (1-percent slope) unless otherwise approved.

Commented [SM9]: A new 1106.2.1 for rainfall rate conversion method was added. This section now becomes 1106.2.2

Table 1106.2.12 Size of horizontal storm drainage piping is added as follows:

**TABLE 1106.2.12
SIZE OF HORIZONTAL STORM DRAINAGE PIPING**

SIZE OF HORIZONTAL PIPING (inches)	HORIZONTALLY PROJECTED ROOF AREA (square feet)					
	Rainfall rate (inches per hour)					
	1	2	3	4	5	6
$\frac{1}{8}$ unit vertical in 12 units horizontal (1-percent slope)						
3	3,288	1,644	1,096	822	657	548
4	7,520	3,760	2,506	1,800	1,504	1,253
5	13,360	6,680	4,453	3,340	2,672	2,227
6	21,400	10,700	7,133	5,350	4,280	3,566
8	46,000	23,000	15,330	11,500	9,200	7,600
10	82,800	41,400	27,600	20,700	16,580	13,800
12	133,200	66,600	44,400	33,300	26,650	22,200
15	218,000	109,000	72,800	59,500	47,600	39,650
$\frac{1}{4}$ unit vertical in 12 units horizontal (2-percent slope)						
3	4,640	2,320	1,546	1,160	928	773
4	10,600	5,300	3,533	2,650	2,120	1,766
5	18,880	9,440	6,293	4,720	3,776	3,146
6	30,200	15,100	10,066	7,550	6,040	5,033
8	65,200	32,600	21,733	16,300	13,040	10,866
10	116,800	58,400	38,950	29,200	23,350	19,450
12	188,000	94,000	62,600	47,000	37,600	31,350
15	336,000	168,000	112,000	84,000	67,250	56,000
$\frac{1}{2}$ unit vertical in 12 units horizontal (4-percent slope)						
3	6,576	3,288	2,295	1,644	1,310	1,096
4	15,040	7,520	5,010	3,760	3,010	2,500
5	26,720	13,360	8,900	6,680	5,320	4,450
6	42,800	21,400	13,700	10,700	8,580	7,140
8	92,000	46,000	30,650	23,000	18,400	15,320
10	171,600	85,800	55,200	41,400	33,150	27,600
12	266,400	133,200	88,800	66,600	53,200	44,400
15	476,000	238,000	158,800	119,000	95,300	79,250

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m².

Section 1106.3.1 Alternative vertical leader sizing is added as follows:

1106.3.1 Alternative vertical leader sizing. Vertical conductors and leaders shall be sized for the maximum projected roof area, in accordance with Tables 1106.3.1(1) and 1106.3.1(2)

Table 1106.3.1(1) and 1006.3.1(2) is added as follows:

**TABLE 1106.3.1(1)
SIZE OF CIRCULAR VERTICAL CONDUCTORS AND LEADERS**

DIAMETER OF LEADER (inches) ^a	HORIZONTALLY PROJECTED ROOF AREA (square feet)											
	Rainfall rate (inches per hour)											
	1	2	3	4	5	6	7	8	9	10	11	12
2	2,880	1,440	960	720	575	480	410	360	320	290	260	240
3	8,800	4,400	2,930	2,200	1,760	1,470	1,260	1,100	980	880	800	730
4	18,400	9,200	6,130	4,600	3,680	3,070	2,630	2,300	2,045	1,840	1,675	1,530
5	34,600	17,300	11,530	8,650	6,920	5,765	4,945	4,325	3,845	3,460	3,145	2,880
6	54,000	27,000	17,995	13,500	10,800	9,000	7,715	6,750	6,000	5,400	4,910	4,500
8	116,000	58,000	38,660	29,000	23,200	19,315	16,570	14,500	12,890	11,600	10,545	9,600

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m².

a. Sizes indicated are the diameter of circular piping. This table is applicable to piping of other shapes, provided the cross-sectional shape fully encloses a circle of the diameter indicated in this table. For rectangular leaders, see Table 1106.2(2). Interpolation is permitted for pipe sizes that fall between those listed in this table.

**TABLE 1106.3.1(2)
SIZE OF RECTANGULAR VERTICAL CONDUCTORS AND LEADERS**

DIMENSIONS OF COMMON LEADER SIZES width x length (inches) ^a	HORIZONTALLY PROJECTED ROOF AREA (square feet)											
	Rainfall rate (inches per hour)											
	1	2	3	4	5	6	7	8	9	10	11	12
1 ¹ / ₄ × 2 ¹ / ₂	3,410	1,700	1,130	850	680	560	480	420	370	340	310	280
2 × 3	5,540	2,770	1,840	1,380	1,100	920	790	690	610	550	500	460
2 ³ / ₄ × 4 ¹ / ₄	12,830	6,410	4,270	3,200	2,560	2,130	1,830	1,600	1,420	1,280	1,160	1,060
3 × 4	13,210	6,600	4,400	3,300	2,640	2,200	1,880	1,650	1,460	1,320	1,200	1,100
3 ¹ / ₂ × 4	15,900	7,950	5,300	3,970	3,180	2,650	2,270	1,980	1,760	1,590	1,440	1,320
3 ¹ / ₂ × 5	21,310	10,650	7,100	5,320	4,260	3,550	3,040	2,660	2,360	2,130	1,930	1,770
3 ³ / ₄ × 4 ³ / ₄	21,960	10,980	7,320	5,490	4,390	3,660	3,130	2,740	2,440	2,190	1,990	1,830
3 ³ / ₄ × 5 ¹ / ₄	25,520	12,760	8,500	6,380	5,100	4,250	3,640	3,190	2,830	2,550	2,320	2,120
3 ¹ / ₂ × 6	27,790	13,890	9,260	6,940	5,550	4,630	3,970	3,470	3,080	2,770	2,520	2,310
4 × 6	32,980	16,490	10,990	8,240	6,590	5,490	4,710	4,120	3,660	3,290	2,990	2,740
5 ¹ / ₂ × 5 ¹ / ₂	44,300	22,150	14,760	11,070	8,860	7,380	6,320	5,530	4,920	4,430	4,020	3,690
7 ¹ / ₂ × 7 ¹ / ₂	100,500	50,250	33,500	25,120	20,100	16,750	14,350	12,560	11,160	10,050	9,130	8,370

a. Sizes indicated are nominal width x length of the opening for rectangular piping.

b. For shapes not included in this table, Equation 11-1 shall be used to determine the equivalent circular diameter, D_e , of rectangular piping for use in interpolation using the data from Table 1106.2(1).

$$D_e = [\text{width} \times \text{length}]^{1/2} \text{ (Equation 11-1)}$$

where:

D_e = equivalent circular diameter and D_e , width and length are in inches.

**INTERNATIONAL PLUMBING CODE APPENDICES
STATUS OF ADOPTION FOR APPENDICES**

~~Appendix C Structural Safety is adopted.~~

~~Appendix E Sizing of Water Piping is adopted.~~

Appendices are Added, Adopted, Adopted as Amended, or Not Adopted as part of this Code as noted in Appendix Adoption Table 1 of the *International Plumbing Code*. Provisions in Appendices that are Added, Adopted, or not deleted Adopted as Amended carry the full weight and mandatory enforceability of the Code.

**TABLE 1
INTERNATIONAL PLUMBING CODE APPENDIX ADOPTION**

APPENDIX	TITLE	STATUS
A	Plumbing Permit Fee Schedule	Deleted-Not <u>Adopted</u>
B	Rates of Rainfall for Various Cities	Deleted-Not <u>Adopted</u>
C	Structural Safety	<u>Adopted</u>
D	Degree Day and Design Temperatures	Deleted-Not <u>Adopted</u>
E	Sizing of Water Piping System	<u>Adopted</u>
F	Board of Appeals	Deleted-Not <u>Adopted</u>