

**Draft 2007 Florida Specific Requirements Supplement
Plumbing Volume**

Note: throughout the document, change International Building Code to Florida Building Code, Building; change the ICC Electrical Code to Chapter 27 of the Florida Building Code, Building; change the International Energy Conservation Code to Chapter 13 of the Florida Building Code, Building; change the International Existing Building Code to Florida Building Code, Existing Building; change the International Fire code to Florida Fire Prevention Code; change International Fuel Gas Code to Florida Building Code, Fuel Gas; change the International Mechanical Code to Florida Building Code, Mechanical; change the International Plumbing Code to Florida Building Code, Plumbing; change the International Residential Code to Florida Building Code, Residential.

Chapter 1, Administration

Section 101 General

101.1 Scope. Change to read as shown:

101.1 Scope. The provisions of Chapter 1, Florida Building Code, Building shall govern the administration and enforcement of the *Florida Building Code, Plumbing*.

101.2 Scope. Change to read as shown:

101.2 Scope. **Reserved.**

101.3 Intent. Change to read as shown:

101.3 Intent. **Reserved.**

101.4 Scope. Change to read as shown:

101.4 Severability. **Reserved.**

Section 102 Applicability. Change to read as shown:

Section 102 Applicability. **Reserved**

Section 103 Department of Plumbing Inspection. Change to read as shown:

Section 103 Department of Plumbing Inspection. **Reserved**

Section 104 Duties and Powers of the Code Official. Change to read as shown:

Section 104 Duties and Powers of the Code Official. **Reserved**

Section 105 Approval. Change to read as shown:

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Section 105 Approval. Reserved

Section 106 Permits. Change to read as shown:

Section 106 Permits. Reserved

Section 107 Inspections and Testing. Change to read as shown:

Section 107 Inspections and Testing. Reserved

Section 108 Violations. Change to read as shown:

Section 108 Violations. Reserved

Section 109 Means of Appeal. Change to read as shown:

Section 109 Means of Appeal. Reserved

Chapter 2, Definitions

201.4 Terms not defined. Change to read as shown:

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have the meanings as defined in Webster's *Third New International Dictionary of the English Language Unabridged*.

202 General Definitions. Change to read as follows:

GREASE INTERCEPTOR. An interceptor whose rated flow exceeds 50 gpm or has a minimum storage capacity of 750 gallons or more and is located outside the building.

GREASE TRAP. An interceptor whose rated flow is 50 gpm or less and is located inside the building.

RECLAIMED WATER. Water that has received treatment and is reused after flowing out of a domestic wastewater treatment facility.

REUSE. The deliberate application of reclaimed water for beneficial purpose.

Chapter 3, General Regulations

305.1 Corrosion. Change to read as shown.

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305.1 Corrosion. Pipes passing through concrete or cinder walls and floors or other corrosive material shall be protected against external corrosion by a protective sheathing or wrapping or other means that will withstand any reaction from lime and acid of concrete, cinder or other corrosive material. Sheathing or wrapping shall allow for expansion and contraction of piping to prevent any rubbing action. Minimum wall thickness of material shall be 0.025 inch (0.64 mm).
Exception: Sleeving is not required for installation of CPVC into concrete or similar material.

305.6 Freezing. Change to read as shown.

305.6 Freezing. Where the design temperature is less than 32oF (0°C), a water, soil or waste pipe shall not be installed outside of a building, in attics or crawl spaces, or be concealed in outside walls in any location subjected to freezing temperatures unless an adequate provision is made to protect it from freezing by insulation or heat or both. Water service pipe shall be installed not less than 12 inches (305 mm) deep or less than 6 inches (152 mm) below the frost line.

305.6.1 Sewer depth. Change to read as shown.

305.6.1 Sewer depth. Reserved.

308.2 Piping seismic support. Change to read as shown.

308.2 Piping seismic support. Reserved.

309.1 Flood plain management construction standards. Change to read as shown.

309.1 Flood plain management construction standards. This code specifically defers to the authority granted to local government by Title 44 CFR, Sections 59 and 60. This code is not intended to supplant or supercede local ordinances adopted pursuant to that authority, nor are local floodplain management ordinances to be deemed amendments to the code.

309.2 Flood hazard. Change to read as shown.

309.2 Flood hazard. Reserved.

309.3 Flood hazard areas subject to high-velocity wave action. Change to read as shown.

309.3 Flood hazard areas subject to high-velocity wave action. Reserved.

312.2 Drainage and vent water test. Change to read as shown.

312.2 Drainage and vent water test. A water test shall be applied to the drainage system either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening, and the system shall be filled with water to point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest openings of the section under test, and each section shall be filled with water, but no

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section shall be tested with less than a 5-foot (1524 mm) head of water. In testing successive sections, at least the upper 5 feet (1524 mm) of the next preceding section shall be tested so that no joint or pipe in the building, except the uppermost 5 feet (1524 mm) of the system, shall have been submitted to a test of less than a 5-foot (1524 mm) head of water. The water shall be kept in the system, or in the portion under test, for at least 15 minutes before inspection starts. The system shall then be tight at all points.

312.5 Water supply system test. Change to read as shown. Overlap exists. Needs resolution.

312.5 Water supply system test. Upon completion of a section of or the entire water supply system, the system, or portion completed, shall be tested and proved tight under a water pressure not less than the working pressure of the system; or, for piping systems other than plastic, by an air test of not less than 50 psi (344 kPa). The water utilized for tests shall be obtained from a potable source of supply. The required tests shall be performed in accordance with this section and P312 of this code.

312.6 Gravity sewer test. Change to read as shown.

312.6 Gravity sewer test. Gravity sewer tests shall consist of plugging the end of the building sewer at the point of connection with the public sewer, completely filling the building sewer with water from the lowest to the highest point thereof, and maintaining such pressure for 15 minutes. The building sewer shall be water tight at all points.

312.9.1 Inspections. Change to read as shown.

312.9.1 Inspections. Inspections shall be made of all backflow prevention assemblies and air gaps to determine whether they are operable.

312.9.2 Testing. Change to read as shown. Overlap exists. Use I- code change with FL specific change, B64.10.1.

312.9.2 Testing. Reduced pressure principle backflow preventer assemblies, double check-valve assemblies, pressure vacuum breaker assemblies, reduced pressure detector fire protection backflow prevention assemblies, double check detector fire protection backflow prevention assemblies, hose connection backflow preventers, and spill-proof vacuum breakers shall be tested at the time of installation and immediately after repairs or relocation. The testing procedure shall be performed in accordance with one of the following standards: ASSE 5013, ASSE 5015, ASSE 5020, ASSE 5047, ASSE 5048, ASSE 5052, ASSE 5056, CSA B64.10 or CSA B64.10.1.

313.1 General. Change to read as shown.

313.1 General. Equipment efficiencies shall be in accordance with Chapter 13, Florida Building Code, Building.

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314.2.2 Drain pipe materials and sizes. Change to read as shown.

314.2.2 Drain pipe materials and sizes. Components of the condensate disposal system shall be cast iron, galvanized steel, copper, cross-linked polyethylene, polybutylene, polyethylene, ABS, CPVC, or PVC pipe or tubing. All components shall be selected for the pressure and temperature rating of the installation. Condensate waste and drain line size shall not be less than 3/4-inch (19 mm) internal diameter and shall not decrease in size from the drain pan connection to the place of condensate disposal. Where the drain pipes from more than one unit are manifolded together for condensate drainage, the pipe or tubing shall be sized in accordance with an approved method. All horizontal sections of drain piping shall be installed in uniform alignment at a uniform slope.

Exception: On wall mounted ductless split units less than 36,001 Btu/h where the drain line is less than 10 feet (3048 mm) in length, the factory drain outlet size shall be acceptable from the equipment to the place of disposal.

314.2.5 Pipe insulation. Change to read as shown.

314.2.5 Pipe insulation. All horizontal primary condensate drains within unconditioned areas shall be insulated to prevent condensation from forming on the exterior of the drain pipe.

315 Public Food Service Establishments and Food Establishments. Change to read as shown.

315 Public Food Service Establishments And Food Establishments.

315.1 Requirements. Change to read as shown.

315.1 Requirements. Public food service establishments and food establishments, as defined in Chapter 381 Florida Statutes, Chapter 500 Florida Statutes and Chapter 509 Florida Statutes, shall comply with the applicable code requirements found in the Florida Building Code, Building, Chapter 4, Special Occupancy.

Section 316 Irrigation. Change to read as shown.

Section 316 Irrigation

316.1 General. Change to read as shown.

316.1 General. Irrigation/sprinkler systems and risers for spray heads shall not be installed within 1 foot (305 mm) of the building sidewall.

Chapter 4, Fixtures, Faucets and Fixture Fittings

Table 403.1 Minimum Number of Required Plumbing Fixtures. Change to read as shown.

TABLE 403.1

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MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES_a
(See Sections 403.2 and 403.3)

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410.1)	OTHER
				MALE	FEMALE	MALE	FEMALE			
1	Assembly (see Sections 403.2, 403.4 and 403.4.1)	A-1d	Theaters and other buildings for the performing arts and motion pictures	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
		A-2d	Nightclubs, bars, taverns, dance halls and buildings for similar purposes	1 per 40	1 per 40	1 per 75		—	1 per 500	1 service sink
			Restaurants, banquet halls and food courts	1 per 75	1 per 75	1 per 200		—	1 per 500	1 service sink
		A-3d	Auditoriums without permanent seating, art galleries, exhibition halls, museums, lecture halls, libraries, arcades and gymnasiums	1 per 125	1 per 65	1 per 200		—	1 per 500	1 service sink
			Passenger terminals and transportation facilities	1 per 500	1 per 500	1 per 750		—	1 per 1,000	1 service sink
			Places of worship and other religious services.	1 per 150	1 per 75	1 per 200		—	1 per 1,000	1 service sink

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410.1)	OTHER
				MALE	FEMALE	MALE	FEMALE			
		A-4	Coliseums, arenas, skating rinks, pools and tennis courts for indoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,500 and 1 per 60 for the remainder exceeding 1,500	1 per 200	1 per 150	—	1 per 1,000	1 service sink

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		A-5	Stadiums, amusement parks, bleachers and grandstands for outdoor sporting events and activities	1 per 75 for the first 1,500 and 1 per 120 for the remainder exceeding 1,500	1 per 40 for the first 1,500 and 1 per 60 for the remainder exceeding 1,500	1 per 200	1 per 150	—	1 per 1,000	1 service sink
2	Business (see Sections 403.2, 403.4 and 403.4.1)	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50	1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80	—	—	—	1 per 100	—
3	Educational	E/D	Educational facilities	1 per 50	1 per 50	—	—	—	1 per 100	1 service sink
4	Factory and industrial	F-1 and F-2	Structures in which occupants are engaged in work fabricating, assembly or processing of products or materials	1 per 100	1 per 100	(see Section 411)	—	—	1 per 400	1 service sink
5	Institutional	I-1	Residential care	1 per 10	1 per 10	1 per 8	—	—	1 per 100	1 service sink
		I-2	Hospitals, ambulatory nursing home patients ^b	1 per room ^c	1 per room ^c	1 per 15	—	—	1 per 100	1 service sink per floor
			Employees, other than residential care ^b	1 per 25	1 per 35	—	—	1 per 100	—	
			Visitors, other than residential care	1 per 75	1 per 100	—	—	1 per 500	—	
		I-3	Prisons ^b	1 per cell	1 per cell	1 per 15	—	—	1 per 100	1 service sink
I-3	Reformatories, detention centers, and correctional centers ^b	1 per 15	1 per 15	1 per 15	—	—	1 per 100	1 service sink		

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		I-4	Adult day care and child care	1 per 15	—	—	1 per 100	1 service sink
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NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/SHOWERS	DRINKING FOUNTAIN (SEE SECTION 410.1)	OTHER
				MALE	FEMALE	MALE	FEMALE			
6	Mercantile (see Sections 403.2, 403.4, 403.4.1 and 403.4.2) f.g	M	Retail stores, service stations, shops, salesrooms, markets and shopping centers	1 per 500		1 per 750		—	1 per 1,000	—
7	Residential	R-1	Hotels, motels, boarding houses (transient)	1 per sleeping unit		1 per sleeping unit		1 per sleeping unit	—	1 service sink
		R-2	Dormitories, fraternities, sororities and boarding houses (not transient)	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
		R-2	Apartment house	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per 20 dwelling units
		R-3	One- and two-family dwellings	1 per dwelling unit		1 per dwelling unit		1 per dwelling unit	—	1 kitchen sink per dwelling unit; 1 automatic clothes washer connection per dwelling unit
		R-4	Residential care/assisted living facilities	1 per 10		1 per 10		1 per 8	1 per 100	1 service sink
8	Storage (see Sections 403.2, 403.4 and 403.4.1)	S-1 S-2	Structures for the storage of goods, warehouses, storehouse and freight depots. Low and Moderate Hazard.	1 per 100		1 per 100		See Section 411	1 per 1,000	1 service sink

a. The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by the **Florida Building Code**.

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- b. Toilet facilities for employees shall be separate from facilities for inmates or patients.
- c. A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient sleeping units shall be permitted where such room is provided with direct access from each patient room and with provisions for privacy.
- d. The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.
- f. In assembly and mercantile occupancies, a unisex toilet room, in accordance with Section 403.7, shall be provided where an aggregate of six or more male and female water closets are required. In buildings of mixed occupancy, only those water closets required for the assembly or mercantile occupancy shall be used to determine the unisex toilet room requirement.
- g. In recreational facilities (coliseums, arenas, stadiums, pools, etc., with less than 3,000 seats and coliseums, arenas & stadiums with more 3,000 seats or greater) where separate-sex bathing rooms are provided, a unisex bathing room in accordance with 403.7 shall be provided. Where each separate sex bathing room has only one shower or bathtub fixture, a unisex bathing room is not required.

403.1.1 Potty parity. Change to read as shown.

403.1.1 Potty parity. In assembly occupancies, restrooms which are open to the public must have a ratio of 3:2 water closets provided for women as the combined total of water closets and urinals provided for men, unless there are two or fewer such fixtures for men, in accordance with §553.86, Florida Statutes.

Exception: This section does not apply to establishments licensed under Chapter 509, Florida Statutes, if the establishment does not provide meeting or banquet rooms which accommodate more than 150 people, and the establishment has at least the same number of water closets for women as the combined total of water closets and urinals for men.

403.1.1.1 Definitions. Change to read as shown.

403.1.1.1 Definitions.

1. **New construction.** Means new construction, building, alteration, rehabilitation or repair that equals or exceeds 50 percent of the replacement value existing on October 1, 1992, unless the same was under design or construction, or under construction contract before October 1, 1992.
2. **Assembly occupancy.** The use of a building or structure, or any portion thereof, for the gathering together of people for purposes such as civic, social or religious functions or for recreation, or for food or drink consumption, or awaiting transportation.
3. **Historic building.** A building which is (a) listed on the National Register of Historic Places; (b) listed on the State Register of Historic Places; (c) listed on a municipal register of historic property, designated according to local ordinance; or (d) included in a district which is listed on a municipal, state or national register of historic property and which has been determined to contribute to the historic significance of the district.

403.1.1.2 Occupancy content calculation. Change to read as shown.

403.1.1.2 Occupancy content calculation. The occupancy content of a building, which determines the number of water closets required for men, shall be calculated using the square footage per person requirements established by the building code in effect in a jurisdiction.

403.1.2 Unisex toilet and bath fixtures. Change to read as shown. [The change to the I-code does not conflict with the FL specific. Use I-code language & add FL spec.]

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403.1.2 Unisex toilet and bath fixtures. Fixtures located within unisex toilet and bathing rooms complying with 403.7 shall be included in determining the minimum required number of fixtures for assembly and mercantile occupancies.

403.1.3 Change to read as shown.

403.1.3 For the purposes of calculating the minimum number of required plumbing facilities, the requirements of Table 403.1 shall apply to any areas outside of the building that are used as part of the building's designated occupancy (single or mixed). Where additional seating is also utilized in these areas, the actual number of seats shall be added to the number of persons calculated by Table 403.1 to obtain the total additional facilities required.

403.2 Separate facilities. Change to read as shown. Overlap exists. Needs resolution.

403.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required for food service establishments which seat 10 persons or less.
3. Separate facilities shall not be required in business and mercantile occupancies with a total floor area of 3,000 square feet (279 m²) or less.

403.3 Number of occupants of each sex. Change to read as shown.

403.3 Number of occupants of each sex. The required water closets, lavatories, and showers or bathtubs shall be distributed equally between the sexes based on the percentage of each sex anticipated in the occupant load. The occupant load shall be composed of 50 percent of each sex, unless statistical data approved by the code official indicate a different distribution of the sexes (see also Section 403.1.1).

403.7 Unisex toilet and bathing rooms. Change to read as shown.

403.7 Unisex toilet and bathing rooms. In assembly and mercantile occupancies, an accessible unisex toilet room shall be provided where an aggregate of six or more male and female water closets is required. In buildings of mixed occupancy, only those water closets required for the assembly or mercantile occupancy shall be used to determine the unisex toilet room requirement. In recreational facilities where separate-sex bathing rooms are provided, an accessible unisex bathing room shall be provided. Fixtures located within unisex toilet and bathing rooms shall be included in determining the number of fixtures provided in an occupancy.

Exception: Where each separate-sex bathing room has only one shower or bathtub fixture, a unisex bathing room is not required.

403.7.1 Required fixtures. Add to read as shown.

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403.7.1 Required fixtures. Unisex toilet and bathing rooms shall comply with Sections 403.7.2 through 403.7.7.

403.7.2 Unisex toilet rooms. Add to read as shown.

403.7.2 Unisex toilet rooms. Unisex toilet rooms shall include only one water closet and only one lavatory. A unisex bathing room in accordance with Section 403.7.3 shall be considered a unisex toilet room.

Exception: A urinal is permitted to be provided in addition to the water closet in a unisex toilet room.

403.7.3 Unisex bathing rooms. Add to read as shown.

403.7.3 Unisex bathing rooms. Unisex bathing rooms shall include only one shower or bathtub fixture. Unisex bathing rooms shall also include one water closet and one lavatory. Where storage facilities are provided for separate-sex bathing rooms, accessible storage facilities shall be provided for unisex bathing rooms.

403.7.4 Location. Add to read as shown.

403.7.4 Location. Unisex toilet and bathing rooms shall be located on an accessible route. Unisex toilet rooms shall be located not more than one story above or below separate-sex toilet rooms. The accessible route from any separate-sex toilet room to a unisex toilet room shall not exceed 500 feet (152 m).

403.7.5 Prohibited location. Add to read as shown.

403.7.5 Prohibited location. In passenger transportation facilities and airports, the accessible route from separate-sex toilet rooms to a unisex toilet room shall not pass through security checkpoints.

403.7.6 Clear floor space. Add to read as shown.

403.7.6 Clear floor space. Where doors swing into a unisex toilet or bathing room, a clear floor space not less than 30 inches by 48 inches (762 mm by 1219 mm) shall be provided, within the room, beyond the area of the door swing.

403.7.7 Privacy. Add to read as shown.

403.7.7 Privacy. Doors to unisex toilet and bathing rooms shall be securable from within the room.

403.8 Sanitary Facilities for Public Swimming Pools. Add to read as shown.

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403.8 Sanitary Facilities for Public Swimming Pools. Separate sanitary facilities shall be provided and labeled for each sex and shall be located within a 200 foot radius of the nearest water's edge of each pool served by the facilities.

Exception: Where a swimming pool serves only a designated group of residential dwelling units and not the general public, poolside sanitary facilities are not required if all living units are within a 200 foot radius of the nearest water's edge, are not over three stories in height and are each equipped with private sanitary facilities.

403.8.1 Required fixtures. Add to read as shown.

403.8.1 Required fixtures. Fixtures shall be provided as indicated on Table P403.8. An additional set of fixtures shall be provided in the men's restroom for every 5000 square feet or major fraction thereof for pools greater than 10,000 square feet. Women's restrooms shall have a ratio of three to two water closets provided for women as the combined total of water closets and urinals provided for men.

403.8.2 Outside access. Add to read as shown.

403.8.2 Outside access. Outside access to facilities shall be provided for bathers at outdoor pools. If they are not visible from any portion of the pool deck, signs shall be posed showing directions to the facilities. Directions shall be legible from any portion of the pool deck; letters shall be a minimum of one inch high.

403.8.3 Sanitary facility floors. Add to read as shown.

403.8.3 Sanitary facility floors. Floors of sanitary facilities shall be constructed of concrete or other nonabsorbent materials, shall have a smooth, slip-resistant finish, and shall slope to floor drains. Carpets, duckboards and footbaths are prohibited. The intersection between the floor and walls shall be coved.

Table 403.8 Public Swimming Pool Fixtures Required. Change to read as shown.

**TABLE 403.8
PUBLIC SWIMMING POOL FIXTURES REQUIRED**

Size	Men's Restrooms			Women's Restrooms	
	Urinals	WC	Lavatory	WC	Lavatory
0 - 2500 sq ft	1	1	1	1	1
2501 - 5000 sq ft	2	1	1	5	1
5001 - 7500 sq ft	2	2	2	6	2
7501 - 10,000 sq ft	3	3	3	9	3

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For SI: 1 square foot = .0929m²

Section 404 Accessible Plumbing Facilities. Change to read as shown.

Section 404 Accessible Plumbing Facilities.

404.1 General. Add to read as shown.

404.1 General.

404.1.1 Accessibility. Add to read as shown.

404.1.1 Accessibility. The sections contained herein are plumbing fixture accessibility requirements only. For complete accessibility requirements, and associated figures, refer to Florida Building Code, Building, Chapter 11.

404.2 (Florida Building Code, Building, 11-4.15) Drinking fountains and water coolers. Add to read as shown.

404.2 (Florida Building Code, Building, 11-4.15) Drinking fountains and water coolers.

404.2.1 (Florida Building Code, Building, 11-4.15.1) Minimum number. Add to read as shown.

404.2.1 (Florida Building Code, Building, 11-4.15.1) Minimum number. Drinking fountains or water coolers required to be accessible by *Florida Building Code, Building*, Section 11-4.1 shall comply with Section 404.2.

404.2.2 (Florida Building Code, Building, 11-4.15.2) Spout height. Add to read as shown.

404.2.2 (Florida Building Code, Building, 11-4.15.2) Spout height. Spouts shall be no higher than 36 inches (915 mm), measured from the floor or ground surfaces to the spout outlet [see Figure 404.2.2(a)].

404.2.3 (Florida Building Code, Building, 11-4.15.3) Spout location. Add to read as shown.

404.2.3 (Florida Building Code, Building, 11-4.15.3) Spout location. The spouts of drinking fountains and water coolers shall be at the front of the unit and shall direct the water flow in a trajectory that is parallel or nearly parallel to the front of the unit. The spout shall provide a flow of water at least 4 inches (100 mm) high so as to allow the insertion of a cup or glass under the flow of water. On an accessible drinking fountain with a round or oval bowl, the spout must be positioned so the flow of water is within 3 inches (75 mm) of the front edge of the fountain.

404.2.4 (Florida Building Code, Building, 11-4.15.4) Controls. Add to read as shown.

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404.2.4 (*Florida Building Code, Building, 11-4.15.4*) **Controls.** Controls shall comply with Section 404.13. Unit controls shall be front mounted or side mounted near the front edge.

404.2.5 (*Florida Building Code, Building, 11-4.15.5*) **Clearances.** Add to read as shown.

404.2.5 (*Florida Building Code, Building, 11-4.15.5*) **Clearances.**

404.2.5.1 [*Florida Building Code, Building, 11-4.15.5(1)*]. Add to read as shown.

404.2.5.1 [*Florida Building Code, Building, 11-4.15.5(1)*]. Wall-and post-mounted cantilevered units shall have a clear knee space between the bottom of the apron and the floor or ground at least 27 inches (685 mm) high, 30 inches (760 mm) wide, and 17 inches to 19 inches (430 mm to 485 mm) deep [see Figure 404.2.2(a) and Figure 404.2.2(b)]. Such units shall also have a minimum clear floor space 30 inches by 48 inches (760 mm by 1220 mm) to allow a person in a wheelchair to approach the unit facing forward.

404.2.5.2 [*Florida Building Code, Building, 11-4.15.5(2)*]. Add to read as shown.

404.2.5.2 [*Florida Building Code, Building, 11-4.15.5(2)*]. Free-standing or built-in units not having a clear space under them shall have a clear floor space at least 30 inches by 48 inches (760 mm by 1220 mm) that allows a person in a wheelchair to make a parallel approach to the unit [see Figure 404.2.2(c) and Figure 404.2.2(d)]. This clear floor space shall comply with *Florida Building Code, Building, §11-4.2.4*.

FIGURE 404.2.2 DRINKING FOUNTAINS AND WATER COOLERS. Add to read as shown.

FIGURE 404.2.2 DRINKING FOUNTAINS AND WATER COOLERS
Florida Building Code, Building, Chapter 11, Figure 27

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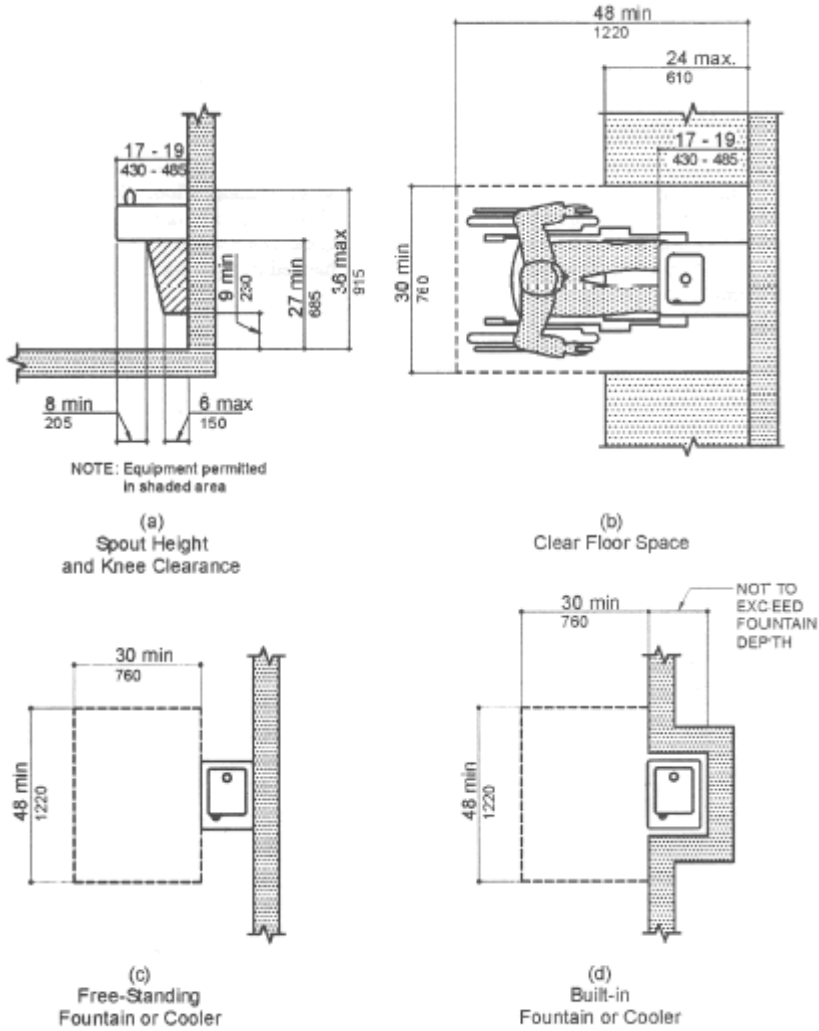


FIGURE 404.3.2 CLEAR FLOOR SPACE IN WATER CLOSETS (not in stall). Add to read as shown.

FIGURE 404.3.2 CLEAR FLOOR SPACE IN WATER CLOSETS (not in stall)

Florida Building Code, Building, Chapter 11, Figure 28

[ICC please remove the “mm” next to 18 in the figure below. It is shown with a line through it.]

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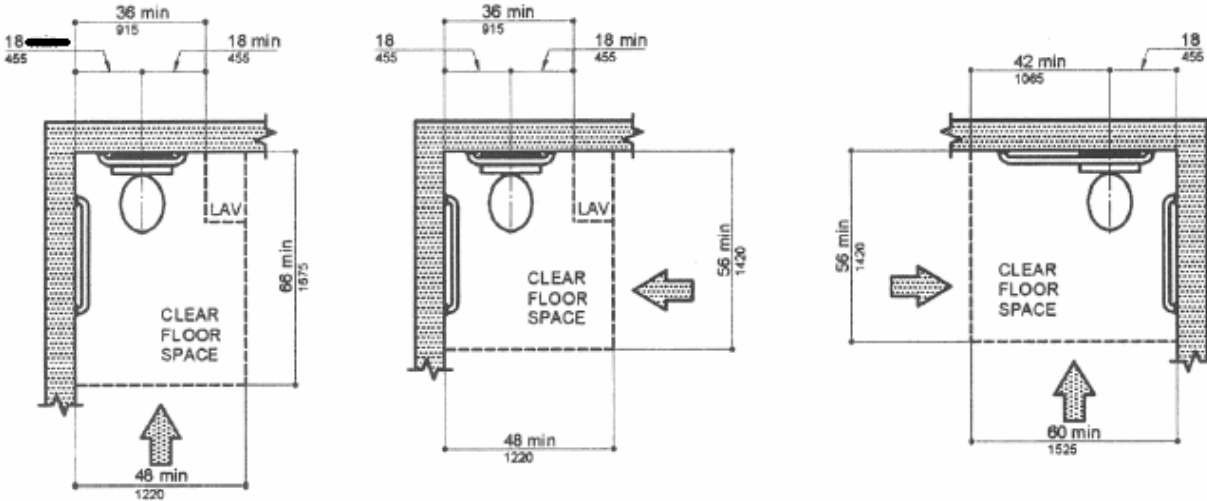
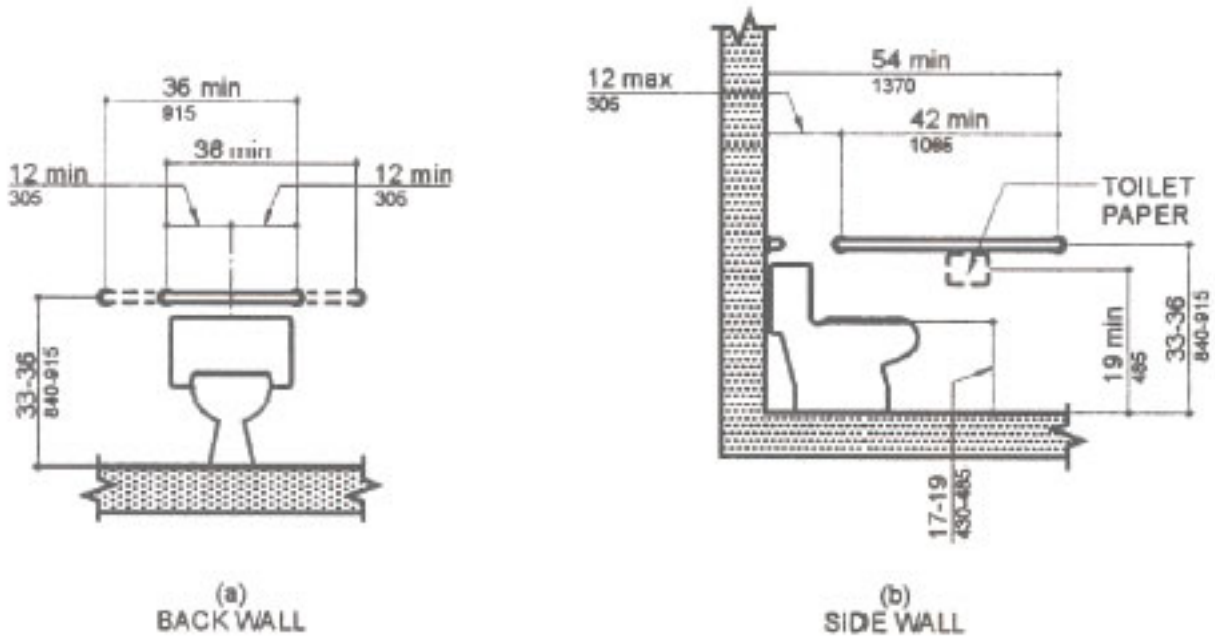


Figure 404.3.3 Grab Bars At Water Closet, Florida Building Code, Building, Chapter 11, Figure 29. Add to read as shown.

Figure 404.3.3 Grab Bars At Water Closet, Florida Building Code, Building, Chapter 11, Figure 29.



404.3 (Florida Building Code, Building, 11-4.16) Water closets. Add to read as shown.

404.3 (Florida Building Code, Building, 11-4.16) Water closets.

404.3.1 (Florida Building Code, Building, 11-4.16.1) General. Add to read as shown.

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404.3.1 (Florida Building Code, Building, 11-4.16.1) **General.** Accessible water closets shall comply with Section 404.3.

404.3.2 (Florida Building Code, Building, 11-4.16.2) **Clear floor space.** Add to read as shown.

404.3.2 (Florida Building Code, Building, 11-4.16.2) **Clear floor space.** Clear floor space for water closets not in stalls shall comply with Figure 404.3.2. Clear floor space may be arranged to allow either a left-handed or right-handed approach.

404.3.3 (Florida Building Code, Building, 11-4.16.3) **Height.** Add to read as shown.

404.3.3 (Florida Building Code, Building, 11-4.16.3) **Height.** The height of water closets shall be 17 inches to 19 inches (430 mm to 485 mm) measured to the top of the toilet seat [see Figure 404.3.3(b)]. Seats shall not be sprung to return to a lifted position.

404.3.4 (Florida Building Code, Building, 11-4.16.4) **Grab bars.** Add to read as shown.

404.3.4 (Florida Building Code, Building, 11-4.16.4) **Grab bars.** Grab bars for water closets not located in stalls shall comply with Section 404.12 and Figure 404.3.3. The grab bar behind the water closet shall be 36 inches (915 mm) minimum.

404.3.5 (Florida Building Code, Building, 11-4.16.5) **Flush controls.** Add to read as shown.

404.3.5 (Florida Building Code, Building, 11-4.16.5) **Flush controls.** Flush controls shall be hand operated or automatic and shall comply with Section 404.13. Controls for flush valves shall be mounted on the wide side of toilet areas no more than 44 inches (1120 mm) above the floor.

404.3.6 (Florida Building Code, Building, 11-4.16.6) **Dispensers.** Add to read as shown.

404.3.6 (Florida Building Code, Building, 11-4.16.6) **Dispensers.** Toilet paper dispensers shall be installed within reach, as shown in Figure 404.3.3(b). Dispensers that control delivery, or that do not permit continuous paper flow, shall not be used.

404.4 (Florida Building Code, Building, 11-4.17) **Toilet Stalls.** Add to read as shown.

404.4 (Florida Building Code, Building, 11-4.17) **Toilet Stalls.**

404.4.1 (Florida Building Code, Building, 11-4.17.1) **Location.** Add to read as shown.

404.4.1 (Florida Building Code, Building, 11-4.17.1) **Location.** Accessible toilet stalls shall be on an accessible route and shall meet the requirements of 404.4.

404.4.2 (Florida Building Code, Building, 11-4.17.2) **Water Closets.** Add to read as shown.

404.4.2 (Florida Building Code, Building, 11-4.17.2) **Water Closets.** Water closets in accessible stalls shall comply with 404.3.

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404.4.3 (Florida Building Code, Building, 11-4.17.3) Size and Arrangement. Add to read as shown.

404.4.3 (Florida Building Code, Building, 11-4.17.3) Size and Arrangement. The size and arrangement of the standard toilet stall shall comply with Figure 404.4.3(a), Standard Stall. Standard toilet stalls with a minimum depth of 56 inches (1420 mm) (See Figure 404.4.3(a)) shall have wall-mounted water closets. If the depth of a standard toilet stall is increased at least 3 inches (75 mm), then a floor-mounted water closet may be used. Arrangements shown for standard toilet stalls may be reversed to allow either a left-or right-hand approach. Additional stalls shall be provided in conformance with 404.9.4

Exception: In instances of alteration work where provision of a standard stall (See Figure 404.4.3(a)) is technically infeasible or where plumbing code requirements prevent combining existing stalls to provide space, either alternate stall (See Figure 404.4.3(b)) may be provided in lieu of the standard stall.

New Construction:

1. The standard accessible restroom stall shall contain an accessible lavatory within it, the size of such lavatory to be not less than 19 inches wide by 17 inches deep, nominal size, and wall mounted. The lavatory shall be mounted so as not to overlap the clear floor space areas required by 404.4 (See Fig.404.4.3 (e)) and to comply with 404.6 of the code. Such lavatories shall be counted as part of the required fixture count for the building.

2. The accessible water closet shall be located in the corner, diagonal to the door.

404.4.4 (Florida Building Code, Building, 11-4.17.4) Toe Clearances. Add to read as shown.

404.4.4 (Florida Building Code, Building, 11-4.17.4) Toe Clearances. In standard stalls, the front partition and at least one side partition shall provide a toe clearance of at least 9 inches (230 mm) above the floor. If the depth of the stall is greater than 60 inches (1525 mm), then the toe clearance is not required.

404.4.5 (Florida Building Code, Building, 11-4.17.5) Doors. Add to read as shown.

404.4.5 (Florida Building Code, Building, 11-4.17.5) Doors. Toilet stall doors, including door hardware, shall comply with Florida Building Code, Building, 11-4.13. The doors shall be self closing. If toilet stall approach is from latch side of the stall door, clearance between the door side of the stall and any obstruction may be reduced to a minimum of 42 inches (1065 mm) (See Fig. 404.4.3). Doors shall not swing into the clear floor space of any fixture.

404.4.6 (Florida Building Code, Building, 11-4.17.6) Grab Bars. Add to read as shown.

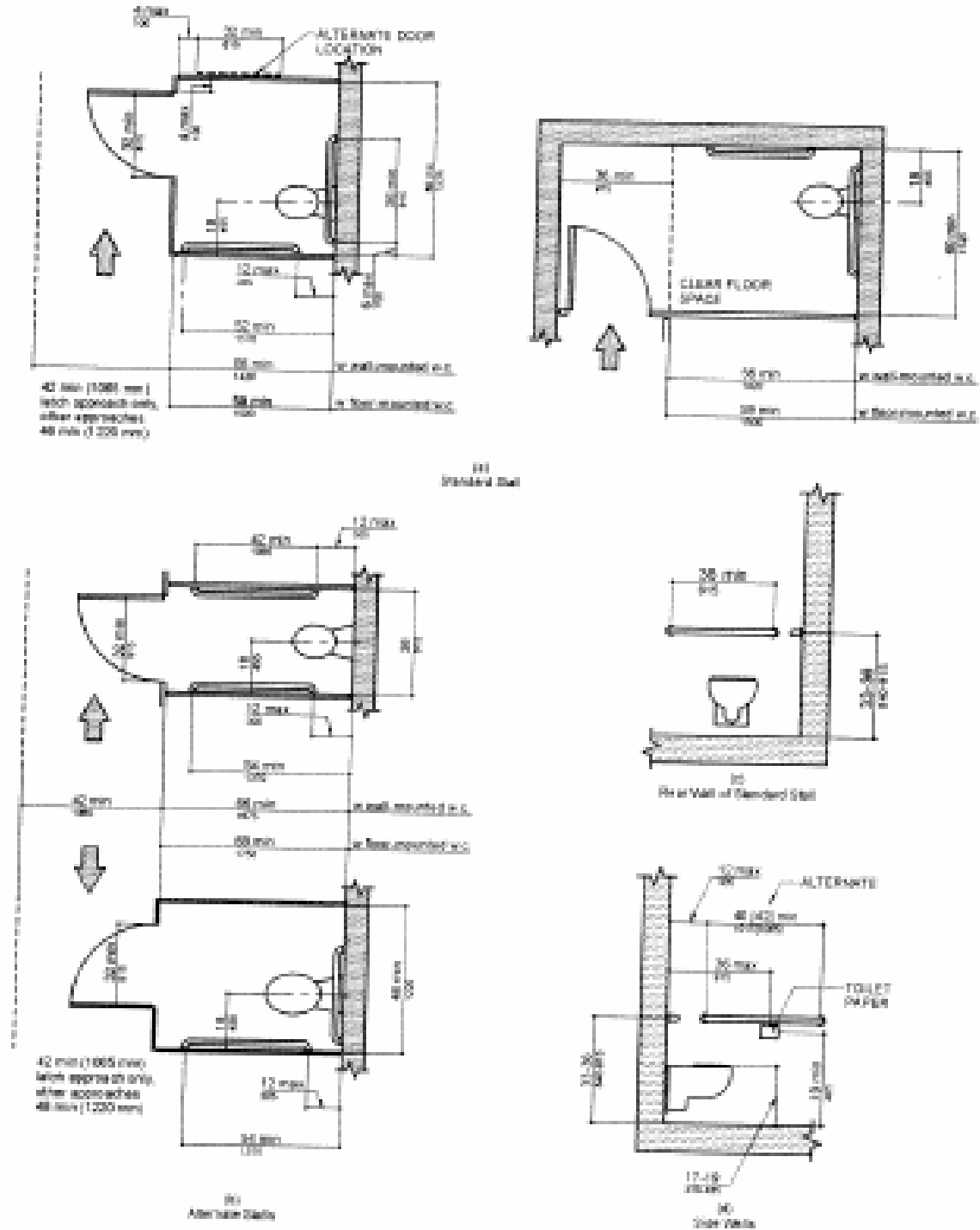
404.4.6 (Florida Building Code, Building, 11-4.17.6) Grab Bars. Grab bars complying with the length and positioning shown in Figure 404.4.3(a), Figure 404.4.3(b), Figure 404.4.3(c), and Figure 404.4.3(d) shall be provided. Grab bars may be mounted with any desired method as long as they have a gripping surface at the locations shown and do not obstruct the required clear floor area. Grab bars shall comply with 404.12.

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FIGURE 404.4.3 TOILET STALLS Add to read as shown.

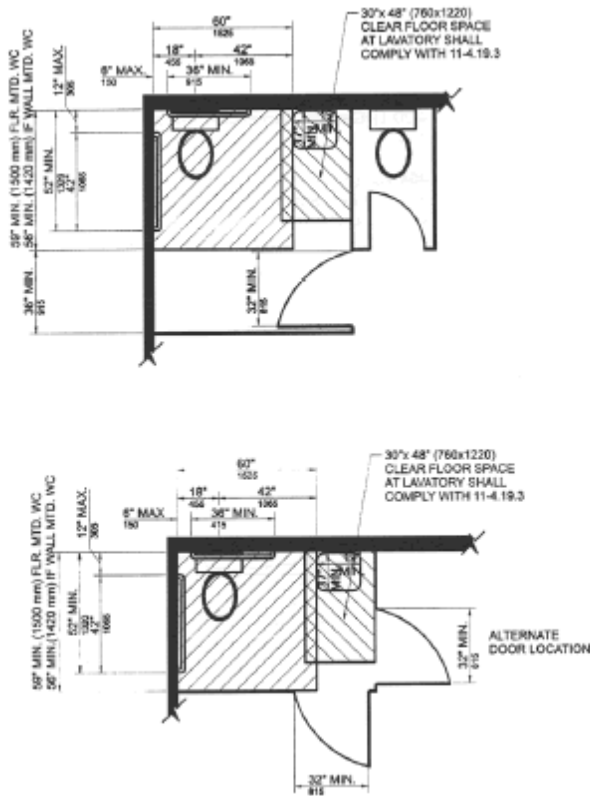
FIGURE 404.4.3 TOILET STALLS

Florida Building Code, Building, Chapter 11, Figure 30



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FIGURE 404.4.3(e) Toilet Stall New Construction
Florida Building Code, Building, Chapter 11, Figure 30(e)



In new construction a lavatory shall be provided within the accessible toilet stall. The lavatory shall not encroach into the required clear floor space for the water offset. See figure 404.4.3(a) for the required clear floor space for the water closet. The location shown for the lavatory is only one of many possible locations within the accessible toilet stall. The water closet shall be located in the corner diagonal to the door. The toilet stall door shall not swing into the required clear floor space for any fixture. Flush control shall comply with section 404.3.5

404.5 (*Florida Building Code, Building, 11-4.18*) Urinals. Add to read as shown.

404.5 (*Florida Building Code, Building, 11-4.18*) Urinals.

404.5.1 (*Florida Building Code, Building, 11-4.18.1*) General. Add to read as shown.

404.5.1 (*Florida Building Code, Building, 11-4.18.1*) **General.** Accessible urinals shall comply with 404.5.

404.5.2 (*Florida Building Code, Building, 11-4.18.2*) Height. Add to read as shown.

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404.5.2 (*Florida Building Code, Building, 11-4.18.2*) **Height.** Urinals shall be stall-type or wall-hung with an elongated rim at a maximum of 17 inches (430 mm) above the finish floor.

404.5.3 (*Florida Building Code, Building, 11-4.18.3*) **Clear Floor Space.** Add to read as shown.

404.5.3 (*Florida Building Code, Building, 11-4.18.3*) **Clear Floor Space.** A clear floor space 30 inches by 48 inches (760 mm by 1220 mm) shall be provided in front of urinals to allow forward approach. This clear space shall adjoin or overlap an accessible route and shall comply with *Florida Building Code, Building, 11-4.2.4*. Urinal shields that do not extend beyond the front edge of the urinal rim may be provided with 29 inches (735 mm) clearance between them.

404.5.4 (*Florida Building Code, Building, 11-4.18.4*) **Flush Controls.** Add to read as shown.

404.5.4 (*Florida Building Code, Building, 11-4.18.4*) **Flush Controls.** Flush controls shall be hand operated or automatic, and shall comply with 404.13, and shall be mounted no more than 44 inches (1120 mm) above the finish floor.

404.6 (*Florida Building Code, Building, 11-4.19*) **Lavatories and mirrors.** Add to read as shown.

404.6 (*Florida Building Code, Building, 11-4.19*) **Lavatories and mirrors.**

404.6.1 (*Florida Building Code, Building, 11-4.19.1*) **General.** Add to read as shown.

404.6.1 (*Florida Building Code, Building, 11-4.19.1*) **General.** The requirements of Section 404.6 shall apply to lavatory fixtures, vanities and built-in lavatories.

404.6.2 (*Florida Building Code, Building, 11-4.19.2*) **Height and clearances.** Add to read as shown.

404.6.2 (*Florida Building Code, Building, 11-4.19.2*) **Height and clearances.** Lavatories shall be mounted with the rim or counter surface no higher than 34 inches (865 mm) above the finish floor. Provide a clearance of at least 29 inches (735 mm) above the finish floor to the bottom of the apron. Knee and toe clearance shall comply with Figure 404.6.2.

404.6.3 (*Florida Building Code, Building, 11-4.19.3*) **Clear floor space.** Add to read as shown.

404.6.3 (*Florida Building Code, Building, 11-4.19.3*) **Clear floor space.** A clear floor space 30 inches by 48 inches (760 mm by 1220 mm) complying with *Florida Building Code, Building, §11-4.2.4* shall be provided in front of a lavatory to allow forward approach. Such clear floor space shall adjoin or overlap an accessible route and shall extend a maximum of 19 inches (485 mm) underneath the lavatory (see Figure 404.6.3).

404.6.4 (*Florida Building Code, Building, 11-4.19.4*) **Exposed pipes and surfaces.** Add to read as shown.

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404.6.4 (Florida Building Code, Building, 11-4.19.4) **Exposed pipes and surfaces.** Hot water and drain pipes under lavatories shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories.

404.6.5 (Florida Building Code, Building, 11-4.19.5) **Faucets.** Add to read as shown.

404.6.5 (Florida Building Code, Building, 11-4.19.5) **Faucets.** Faucets shall comply with Section 404.13. Lever-operated, push-type and electronically controlled mechanisms are examples of acceptable designs. If self-closing valves are used, the faucet shall remain open for at least 10 seconds.

404.6.6 [Florida Building Code, Building, 11-4.19.6(1)] **Mirrors.** Add to read as shown.

404.6.6 [Florida Building Code, Building, 11-4.19.6(1)] **Mirrors.** Mirrors shall be mounted with the bottom edge of the reflecting surface no higher than 40 inches (1015 mm) above the finish floor (see Figure 404.6.2).

FIGURE 404.6.2 LAVATORY CLEARANCES. Add to read as shown.

FIGURE 404.6.2 LAVATORY CLEARANCES
(Florida Building Code, Building Chapter 11, Figure 31)

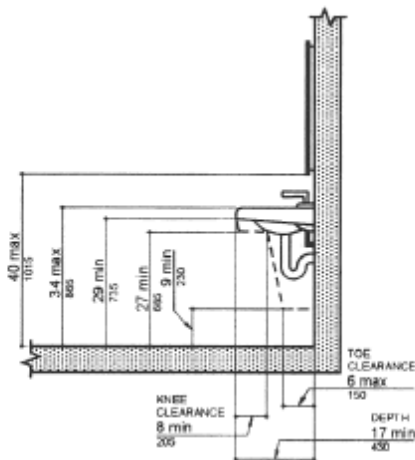
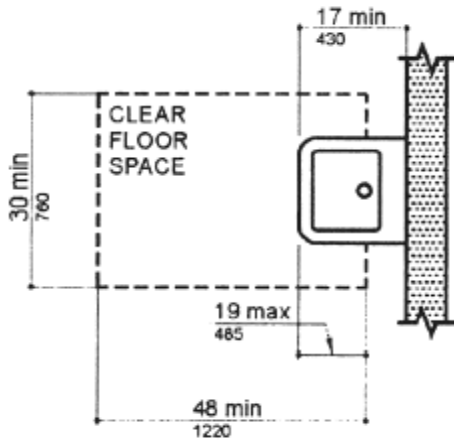


FIGURE 404.6.3 CLEAR FLOOR SPACE AT LAVATORIES Add to read as shown.

FIGURE 404.6.3 CLEAR FLOOR SPACE AT LAVATORIES
(Florida Building Code, Building Chapter 11, Figure 32)

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404.7 (Florida Building Code, Building, 11-4.20) Bathtubs. Add to read as shown.

404.7 (Florida Building Code, Building, 11-4.20) Bathtubs.

404.7.1 (Florida Building Code, Building, 11-4.20.1) General. Add to read as shown.

404.7.1 (Florida Building Code, Building, 11-4.20.1) **General.** Accessible bathtubs shall comply with Section 404.7.

404.7.2 (Florida Building Code, Building, 11-4.20.2) Floor Space. Add to read as shown.

404.7.2 (Florida Building Code, Building, 11-4.20.2) **Floor Space.** Clear floor space in front of bathtubs shall be as shown in Figure 404.7.2.

404.7.3 (Florida Building Code, Building, 11-4.20.3) Seat. Add to read as shown.

404.7.3 (Florida Building Code, Building, 11-4.20.3) **Seat.** An in-tub seat or a seat at the head end of the tub shall be provided as shown in Figure 404.7.2 and Figure 404.7.3. The structural strength of seats and their attachments shall comply with Section 404.12.3. Seats shall be mounted securely and shall not slip during use.

404.7.4 (Florida Building Code, Building, 11-4.20.4) Grab bars. Add to read as shown.

404.7.4 (Florida Building Code, Building, 11-4.20.4) **Grab bars.** Grab bars complying with Section 404.12 shall be provided as shown in Figure 404.7.2 and Figure 404.7.3.

404.7.5 (Florida Building Code, Building, 11-4.20.5) Controls. Add to read as shown.

404.7.5 (Florida Building Code, Building, 11-4.20.5) **Controls.** Faucets and other controls complying with Florida Building Code, Building, Section 404.13 shall be located as shown in Figure 404.7.3.

404.7.6 (Florida Building Code, Building, 11-4.20.6) Shower unit. Add to read as shown.

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404.7.6 (*Florida Building Code, Building, 11-4.20.6*) **Shower unit.** A shower spray unit with a hose at least 60 inches (1525 mm) long that can be used both as a fixed shower head and as a hand-held shower shall be provided.

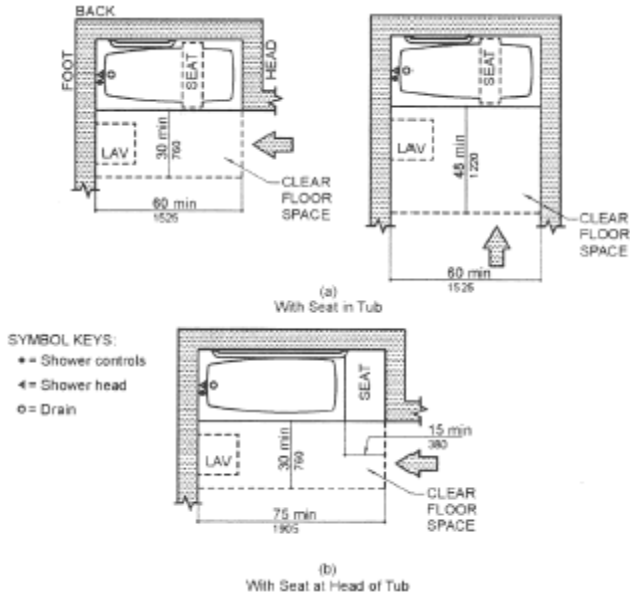
404.7.7 (*Florida Building Code, Building, 11-4.20.7*) **Bathtub enclosures.** Add to read as shown.

404.7.7 (*Florida Building Code, Building, 11-4.20.7*) **Bathtub enclosures.** If provided, enclosures for bathtubs shall not obstruct controls or transfer from wheelchairs onto bathtub seats or into tubs. Enclosures on bathtubs shall not have tracks mounted on their rims.

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FIGURE 404.7.2 CLEAR FLOOR SPACE AT BATHTUBS Add to read as shown.

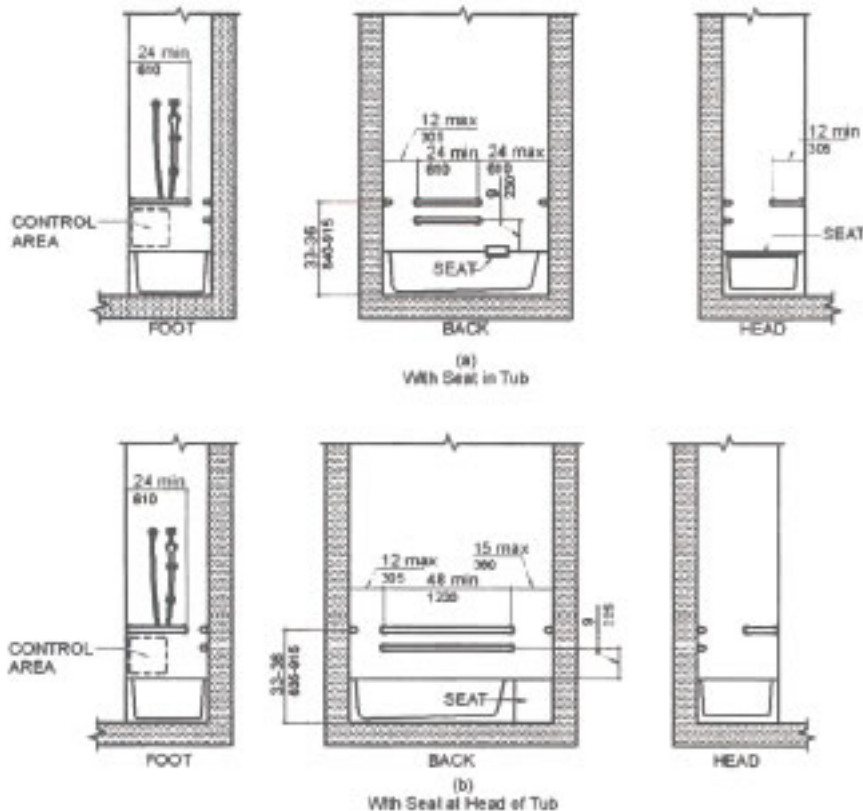
FIGURE 404.7.2 CLEAR FLOOR SPACE AT BATHTUBS
(Florida Building Code, Building, Chapter 11, Figure 33)



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FIGURE 404.7.3 GRAB BARS AT BATHTUBS. Add to read as shown.

FIGURE 404.7.3 GRAB BARS AT BATHTUBS
(Florida Building Code, Building, Chapter 11, Figure 34)



404.8 (Florida Building Code, Building, 11-4.21) Shower Stalls. Add to read as shown.

404.8 (Florida Building Code, Building, 11-4.21) Shower Stalls.

404.8.1 (Florida Building Code, Building, 11-4.21.1) General. Add to read as shown.

404.8.1 (Florida Building Code, Building, 11-4.21.1) General. Accessible shower stalls shall comply with 404.8.

404.8.2 (Florida Building Code, Building, 11-4.21.2) Size and Clearances. Add to read as shown.

404.8.2 (Florida Building Code, Building, 11-4.21.2) Size and Clearances. Except as specified in 11-9.1.2, shower stall size and clear floor space shall comply with Figure 404.8.2(1)(a) or Figure 404.8.2(1)(b). The shower stall in Figure 404.8.2(1)(a) shall be 36 inches by 36 inches (915 mm by 915 mm). Shower stalls required by Florida Building Code, Building, 11-9.1.2 shall comply with Figure 404.8.2(2)(a) or Figure 404.8.2(2)(b). The shower stall in Figure 404.8.2(1)(b) will fit into the space required for a bathtub.

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404.8.3 (Florida Building Code, Building, 11-4.21.3) Seat. Add to read as shown.

404.8.3 (Florida Building Code, Building, 11-4.21.3) Seat. A seat shall be provided in shower stalls 36 inches by 36 inches (915 mm by 915 mm) and shall be as shown in Figure 404.8.3. The seat shall be mounted 17 inches to 19 inches (430 mm to 485 mm) from the bathroom floor and shall extend the full depth of the stall. In a 36-inch by 36-inch (915 mm by 915 mm) shower stall, the seat shall be on the wall opposite the controls. Where a fixed seat is provided in a 30-inch by 60-inch minimum (760 mm by 1525 mm) shower stall, it shall be a folding type and shall be mounted on the wall adjacent to the controls as shown in Figure 404.8.2(2). The structural strength of seats and their attachments shall comply with Section 404.12.3.

404.8.4 (Florida Building Code, Building, 11-4.21.4) Grab Bars. Add to read as shown.

404.8.4 (Florida Building Code, Building, 11-4.21.4) Grab Bars. Grab bars complying with Section 404.12 shall be provided as shown in Figure 404.8.4.

404.8.5 (Florida Building Code, Building, 11-4.21.5) Controls. Add to read as shown.

404.8.5 (Florida Building Code, Building, 11-4.21.5) Controls. Faucets and other controls complying with Section 404.13 shall be located as shown in Figure 404.8.4. In shower stalls 36 inches by 36 inches (915 mm by 915 mm), all controls, faucets and the shower unit shall be mounted on the side wall opposite the seat.

404.8.6 (Florida Building Code, Building, 11-4.21.6) Shower unit. Add to read as shown.

404.8.6 (Florida Building Code, Building, 11-4.21.6) Shower unit. A shower spray unit with a hose at least 60 inches (1525 mm) long that can be used both as a fixed shower head and as a hand-held shower shall be provided.

Exception: In unmonitored facilities where vandalism is a consideration, a fixed shower head mounted at 48 inches (1220 mm) above the shower floor may be used in lieu of a hand-held shower head.

404.8.7 (Florida Building Code, Building, 11-4.21.7) Curbs. Add to read as shown.

404.8.7 (Florida Building Code, Building, 11-4.21.7) Curbs. If provided, curbs in shower stalls 36 inches by 36 inches (915 mm by 915 mm) shall be no higher than ½ inch (13 mm). Shower stalls that are 30 inches by 60 inches (760 mm by 1525 mm) minimum shall not have curbs.

404.8.8 (Florida Building Code, Building, 11-4.21.8) Shower enclosures. Add to read as shown.

404.8.8 (Florida Building Code, Building, 11-4.21.8) Shower enclosures. If provided, enclosures for shower stalls shall not obstruct controls or obstruct transfer from wheelchairs onto shower seats.

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FIGURE 404.8.2(1) SHOWER SIZE AND CLEARANCES Add to read as shown.

FIGURE 404.8.2(1) SHOWER SIZE AND CLEARANCES
(Florida Building Code, Building, Chapter 11, Figure 35)

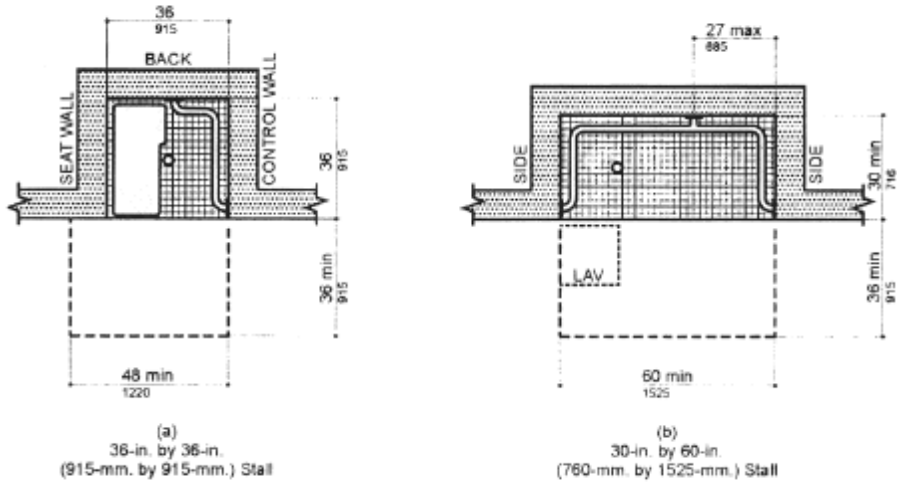
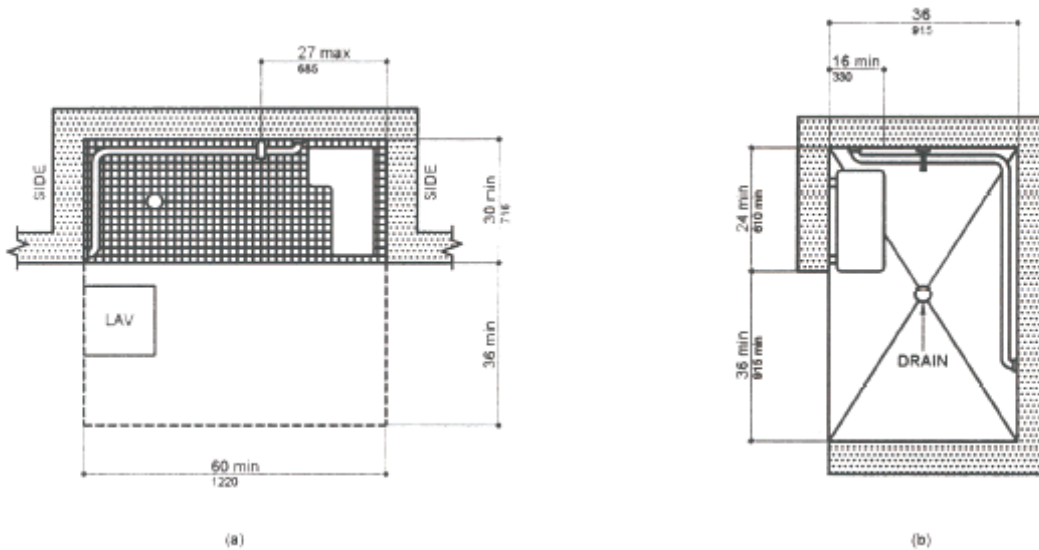


Figure 404.8.2(2) Roll-In Shower With Folding Seat Add To Read As Shown.

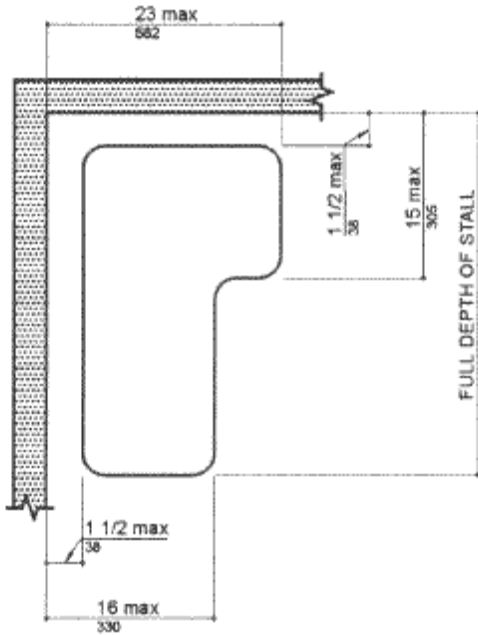
FIGURE 404.8.2(2) ROLL-IN SHOWER WITH FOLDING SEAT
(Florida Building Code, Building, Chapter 11, Figure 57)



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FIGURE 404.8.3 SHOWER SEAT DESIGN Add to read as shown.

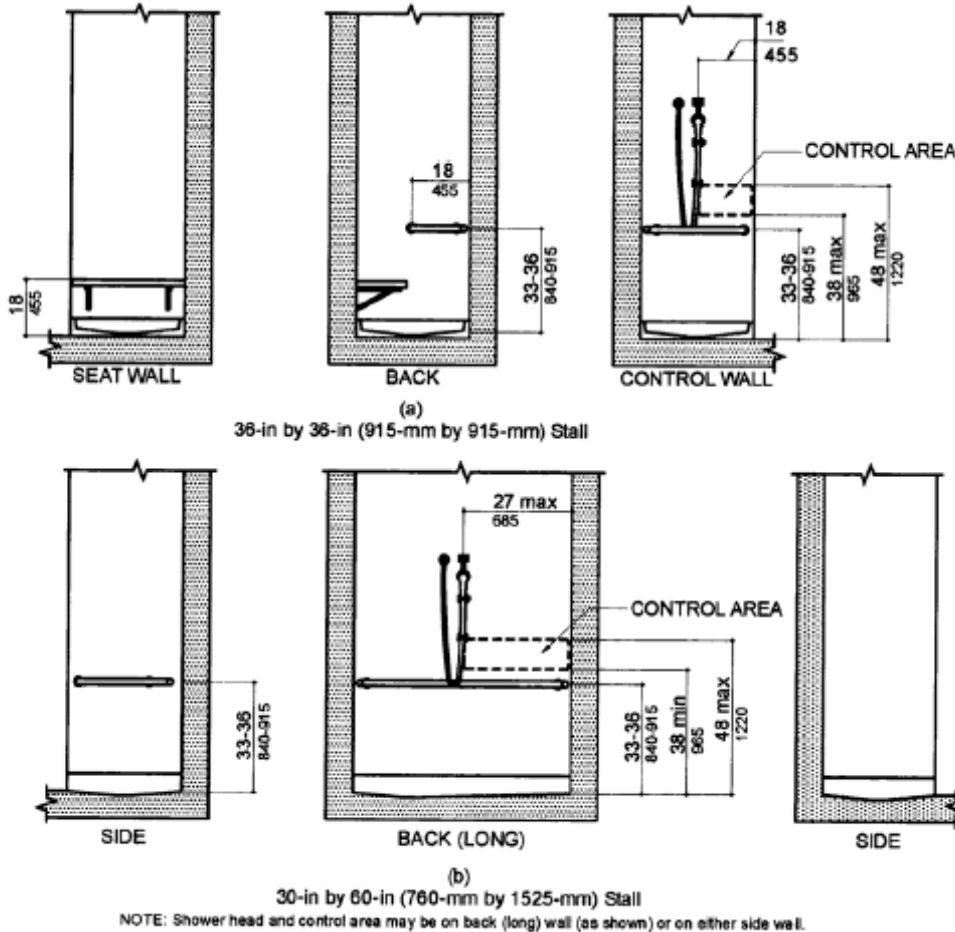
FIGURE 404.8.3 SHOWER SEAT DESIGN
(Florida Building Code, Building, Chapter 11, Figure 36)



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FIGURE 404.8.4 GRAB BARS AT SHOWER STALLS Add to read as shown.

FIGURE 404.8.4 GRAB BARS AT SHOWER STALLS
(Florida Building Code, Building, Chapter 11, Figure 37)



404.9 (Florida Building Code, Building, 11-4.22) Toilet Rooms Add to read as shown.

404.9 (Florida Building Code, Building, 11-4.22) Toilet Rooms

404.9.1 (Florida Building Code, Building, 11-4.22.1) Minimum Number. Add to read as shown.

404.9.1 (Florida Building Code, Building, 11-4.22.1) Minimum Number. Toilet facilities required to be accessible by Florida Building Code, Building, 11-4.1 shall comply with Florida Building Code, Building, 11-4.22. Accessible toilet rooms shall be on an accessible route.

404.9.2 (Florida Building Code, Building, 11-4.22.2) Doors. Add to read as shown.

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404.9.2 (*Florida Building Code, Building, 11-4.22.2*) **Doors.** All doors to accessible toilet rooms shall comply with *Florida Building Code, Building, 11-4.13*. Doors shall not swing into the clear floor space required for any fixture.

Exception: All new single-family houses, duplexes, triplexes, condominiums, and townhouses shall provide at least one bathroom, located with maximum possible privacy, where bathrooms are provided on habitable grade levels, with a door that has a 29 inch clear opening. However, if only a toilet room is provided at grade level, such toilet room shall have a clear opening of not less than 29 inches.

404.9.3 (*Florida Building Code, Building, 11-4.22.3*) **Clear Floor Space.** Add to read as shown.

404.9.3 (*Florida Building Code, Building, 11-4.22.3*) **Clear Floor Space.** The accessible fixtures and controls required in 404.9.4, 404.9.5, 404.9.6 and 404.9.7 shall be on an accessible route. An unobstructed turning space complying with *Florida Building Code, Building, 11-4.2.3* shall be provided within an accessible toilet room. The clear floor space at fixtures and controls, the accessible route, and the turning space may overlap.

404.9.4 (*Florida Building Code, Building, 11-4.22.4*) **Water closets.** Add to read as shown.

404.9.4 (*Florida Building Code, Building, 11-4.22.4*) **Water closets.** If toilet stalls are provided, then at least one shall be a standard toilet stall complying with Section 404.4; where six or more stalls are provided, in addition to the stall complying with Section 404.4.3, at least one stall 36 inches (915 mm) wide with an outward swinging, self-closing door and parallel grab bars complying with Figures 404.4.3(d) and 404.12.2 shall be provided. Water closets in such stalls shall comply with Section 404.3. If water closets are not in stalls, then at least one shall comply with Section 404.3

404.9.5 (*Florida Building Code, Building, 11-4.22.5*) **Urinals.** Add to read as shown.

404.9.5 (*Florida Building Code, Building, 11-4.22.5*) **Urinals.** If urinals are provided, then at least one shall comply with 404.5.

404.9.6 (*Florida Building Code, Building, 11-4.22.6*) **Lavatories and Mirrors.** Add to read as shown.

404.9.6 (*Florida Building Code, Building, 11-4.22.6*) **Lavatories and Mirrors.** If lavatories and mirrors are provided, then at least one of each shall comply with 404.6.

404.9.7 (*Florida Building Code, Building, 11-4.22.7*) **Controls and Dispensers.** Add to read as shown.

404.9.7 (*Florida Building Code, Building, 11-4.22.7*) **Controls and Dispensers.** If controls, dispensers, receptacles, or other equipment are provided, then at least one of each shall be on an accessible route and shall comply with *Florida Building Code, Building, 11-4.27*.

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404.10 (*Florida Building Code, Building, 11-4.23*) **Bathrooms, Bathing Facilities, and Shower Rooms. Add to read as shown.**

404.10 (*Florida Building Code, Building, 11-4.23*) **Bathrooms, Bathing Facilities, and Shower Rooms.**

404.10.1 (*Florida Building Code, Building, 11-4.23.1*) **Minimum Number. Add to read as shown.**

404.10.1 (*Florida Building Code, Building, 11-4.23.1*) **Minimum Number.** Bathrooms, bathing facilities, or shower rooms required to be accessible by *Florida Building Code, Building, 11-4.1* shall comply with 404.10 and shall be on an accessible route.

404.10.2 (*Florida Building Code, Building, 11-4.23.2*) **Doors. Add to read as shown.**

404.10.2 (*Florida Building Code, Building, 11-4.23.2*) **Doors.** Doors to accessible bathrooms shall comply with *Florida Building Code, Building, §11-4.13*. Doors shall not swing into the floor space required for any fixture.

Exception: All new single-family houses, duplexes, triplexes, condominiums and townhouses shall provide at least one bathroom, located with maximum possible privacy, where bathrooms are provided on habitable grade levels, with a door that has a 29-inch (737 mm) clear opening. However, if only a toilet room is provided at grade level, such toilet room shall have a clear opening of not less than 29 inches (737 mm).

404.10.3 (*Florida Building Code, Building, 11-4.23.3*) **Clear floor space. Add to read as shown.**

404.10.3 (*Florida Building Code, Building, 11-4.23.3*) **Clear floor space.** The accessible fixtures and controls required in Sections 404.10.4, 404.10.5, 404.10.6, 404.10.7, 404.10.8 and 404.10.9 shall be on an accessible route. An unobstructed turning space complying with *Florida Building Code, Building, §11-4.2.3* shall be provided within an accessible bathroom. The clear floor spaces at fixtures and controls, the accessible route and the turning space may overlap.

404.10.4 (*Florida Building Code, Building, 11-4.23.4*) **Water closets. Add to read as shown.**

404.10.4 (*Florida Building Code, Building, 11-4.23.4*) **Water closets.** If toilet stalls are provided, then at least one shall be a standard toilet stall complying with Section 404.4; where six or more stalls are provided, in addition to the stall complying with Section 404.4.3, at least one stall 36 inches (915 mm) wide with an outward swinging, self-closing door and parallel grab bars complying with Section 404.12 and Figure 404.4.3(d) shall be provided. Water closets in such stalls shall comply with Section 404.3. If water closets are not in stalls, then at least one shall comply with Section 404.3.

404.10.5 (*Florida Building Code, Building, 11-4.23.5*) **Urinals. Add to read as shown.**

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404.10.5 (*Florida Building Code, Building, 11-4.23.5*) **Urinals.** If urinals are provided, then at least one shall comply with Section 404.5.

404.10.6 (*Florida Building Code, Building, 11-4.23.6*) **Lavatories and mirrors.** Add to read as shown.

404.10.6 (*Florida Building Code, Building, 11-4.23.6*) **Lavatories and mirrors.** If lavatories and mirrors are provided, then at least one of each shall comply with Section 404.6.

404.10.7 (*Florida Building Code, Building, 11-4.23.7*) **Controls and dispensers.** Add to read as shown.

404.10.7 (*Florida Building Code, Building, 11-4.23.7*) **Controls and dispensers.** If controls, dispensers, receptacles or other equipment are provided, then at least one of each shall be on an accessible route and shall comply with *Florida Building Code, Building, Section 11-4.27.*

404.10.8 (*Florida Building Code, Building, 11-4.23.8*) **Bathing and shower facilities.** Add to read as shown.

404.10.8 (*Florida Building Code, Building, 11-4.23.8*) **Bathing and shower facilities.** If tubs or showers are provided, then at least one accessible tub that complies with Section 404.7 or at least one accessible shower that complies with Section 404.8 shall be provided.

404.10.9 (*Florida Building Code, Building, 11-4.23.9*) **Medicine Cabinets.** Add to read as shown.

404.10.9 (*Florida Building Code, Building, 11-4.23.9*) **Medicine Cabinets.** If medicine cabinets are provided, at least one shall be located with a usable shelf no higher than 44 in (1120 mm) above the floor space. The floor space shall comply with *Florida Building Code, Building, 11-4.2.4.*

404.11 (*Florida Building Code, Building, 11-4.24*) **Sinks.** Add to read as shown.

404.11 (*Florida Building Code, Building, 11-4.24*) **Sinks.**

404.11.1 (*Florida Building Code, Building, 11-4.24.1*) **General.** Add to read as shown.

404.11.1 (*Florida Building Code, Building, 11-4.24.1*) **General.** Sinks required to be accessible by Florida Building Code, Building, Section 11-4.1 shall comply with Section 404.11.

404.11.2 (*Florida Building Code, Building, 11-4.24.2*) **Height.** Add to read as shown.

404.11.2 (*Florida Building Code, Building, 11-4.24.2*) **Height.** Sinks shall be mounted with the counter or rim no higher than 34 inches (865 mm) above the finish floor.

404.11.3 (*Florida Building Code, Building, 11-4.24.3*) **Knee clearance.** Add to read as shown.

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404.11.3 (*Florida Building Code, Building, 11-4.24.3*) **Knee clearance.** Knee clearance that is at least 27 inches (685 mm) high, 30 inches (760 mm) wide and 19 inches (485 mm) deep shall be provided underneath sinks.

404.11.4 (*Florida Building Code, Building, 11-4.24.4*) **Depth.** Add to read as shown.

404.11.4 (*Florida Building Code, Building, 11-4.24.4*) **Depth.** Each sink shall be a maximum of 6½ inches (165 mm) deep.

404.11.5 (*Florida Building Code, Building, 11-4.24.5*) **Clear floor space.** Add to read as shown.

404.11.5 (*Florida Building Code, Building, 11-4.24.5*) **Clear floor space.** A clear floor space at least 30 inches by 48 inches (760 mm by 1220 mm) complying with *Florida Building Code, Building, Section 11-4.2.4* shall be provided in front of a sink to allow forward approach. The clear floor space shall be on an accessible route and shall extend a maximum of 19 inches (485 mm) underneath the sink (see Figure 404.6.3).

404.11.6 (*Florida Building Code, Building, 11-4.24.6*) **Exposed pipes and surfaces.** Add to read as shown.

404.11.6 (*Florida Building Code, Building, 11-4.24.6*) **Exposed pipes and surfaces.** Hot water and drain pipes exposed under sinks shall be insulated or otherwise configured so as to protect against contact. There shall be no sharp or abrasive surfaces under sinks.

404.11.7 (*Florida Building Code, Building, 11-4.24.7*) **Faucets.** Add to read as shown.

404.11.7 (*Florida Building Code, Building, 11-4.24.7*) **Faucets.** Faucets shall comply with Section 404.13. Lever-operated, push-type, touch-type or electronically controlled mechanisms are acceptable designs.

404.12 (*Florida Building Code, Building, 11-4.26*) **Handrails, grab bars, and tub and shower seats.** Add to read as shown.

404.12 (*Florida Building Code, Building, 11-4.26*) **Handrails, grab bars, and tub and shower seats.**

404.12.1 (*Florida Building Code, Building, 11-4.26.1*) **General.** Add to read as shown.

404.12.1 (*Florida Building Code, Building, 11-4.26.1*) **General.** All handrails, grab bars and tub and shower seats required to be accessible by *Florida Building Code, Building, Section 11-4.1, Florida Building Code, Building, Section 11-4.8, Florida Building Code, Building, Section 11-4.9, Section 404.3, 404.4, 404.7 or 404.8* shall comply with Section 404.12.

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404.12.2 (Florida Building Code, Building, 11-4.26.2) Size and Spacing of grab bars and handrails. Add to read as shown.

404.12.2 (Florida Building Code, Building, 11-4.26.2) Size and Spacing of grab bars and handrails. The diameter or width of the gripping surfaces of a handrail or grab bar shall be 1¼ inches to 1½ inches (32 mm to 38 mm), or the shape shall provide an equivalent gripping surface. If handrails or grab bars are mounted adjacent to a wall, the space between the wall and the grab bar shall be 1½ inches (38 mm) [see Figure 404.12.2(a), Figure 404.12.2(b), Figure 404.12.2(c), and Figure 404.12.2(e)]. Handrails may be located in a recess if the recess is a maximum of 3 inches (75 mm) deep and extends at least 18 inches (455 mm) above the top of the rail [see Figure 404.12.2(d)].

404.12.3 (Florida Building Code, Building, 11-4.26.3) Structural strength. Add to read as shown.

404.12.3 (Florida Building Code, Building, 11-4.26.3) Structural strength. The structural strength of grab bars, tub and shower seats, fasteners and mounting devices shall meet the following specification:

1. Bending stress in a grab bar or seat induced by the maximum bending moment from the application of 250 pound-foot (1112 N) shall be less than the allowable stress for the material of the grab bar or seat.
2. Shear stress induced in a grab bar or seat by the application of 250 pound foot (1112 N) shall be less than the allowable shear stress for the material of the grab bar or seat. If the connection between the grab bar or seat and its mounting bracket or other support is considered to be fully restrained, then direct and torsional shear stresses shall be totaled for the combined shear stress, which shall not exceed the allowable shear stress.
3. Shear force induced in a fastener or mounting device from the application of 250 pound-foot (1112 N) shall be less than the allowable lateral load of either the fastener or mounting device or the supporting structure, whichever is the smaller allowable load.
4. Tensile force induced in a fastener by a direct tension force of 250 pound-foot (1112 N) plus the maximum moment from the application of 250 pound-foot (1112 N) shall be less than the allowable withdrawal load between the fastener and the supporting structure.
5. Grab bars shall not rotate within their fittings.

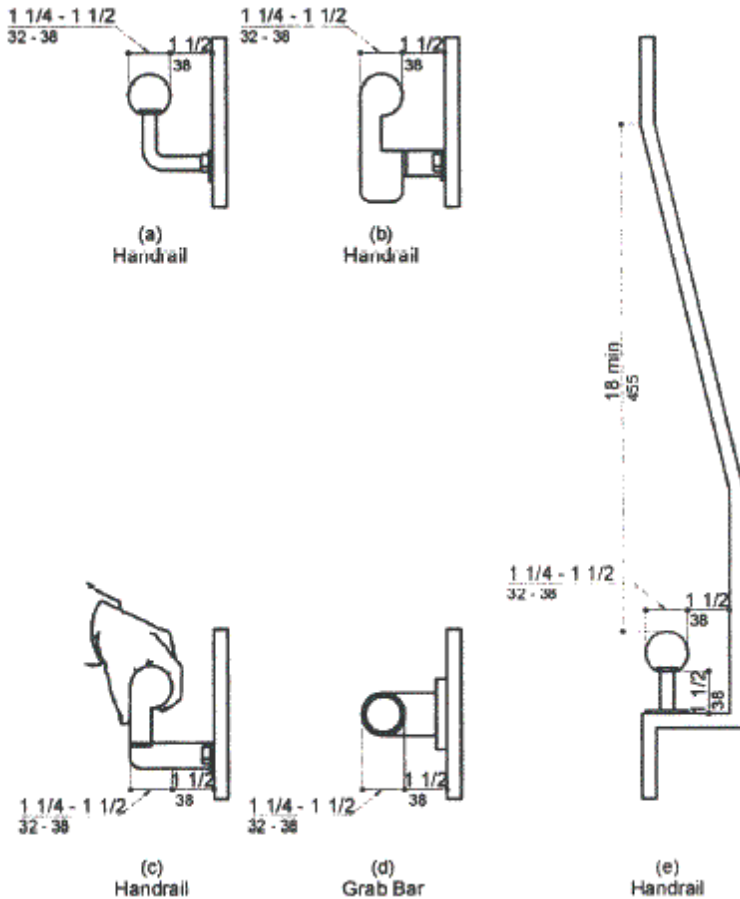
404.12.4 (Florida Building Code, Building, 11-4.26.4) Eliminating hazards. Add to read as shown.

404.12.4 (Florida Building Code, Building, 11-4.26.4) Eliminating hazards. A handrail or grab bar and any wall or other surface adjacent to it shall be free of any sharp or abrasive elements. Edges shall have a minimum radius of 1/8 inch (3.2 mm).

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FIGURE 404.12.2 SIZE AND SPACING OF HANDRAILS AND GRAB BARS. Add to read as shown.

FIGURE 404.12.2 SIZE AND SPACING OF HANDRAILS AND GRAB BARS.
(Florida Building Code, Building, Chapter 11, Figure 39)



404.13 (Florida Building Code, Building, 11-4.27.4) Operation. Add to read as shown.

404.13 (Florida Building Code, Building, 11-4.27.4) Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbf (22.2 N).

417.5.2 Shower lining. Change to read as shown.

417.5.2 Shower lining. Floors under shower compartments, except where prefabricated receptors have been provided, shall be lined and made water tight utilizing material complying with Sections 417.5.2.1 through 417.5.2.4. Such liners shall turn up on all sides at least 2 inches (51 mm) above the finished threshold level. Liners shall be recessed and fastened to an approved backing so as not to occupy the space required for wall covering, and shall not be nailed or perforated at any point less than 1 inch (25 mm) above the finished threshold. Liners shall be pitched one-fourth unit vertical in 12 units horizontal (2-percent slope) and shall be sloped toward the fixture drains and be securely fastened to the waste outlet at the seepage entrance, making a water-tight joint between the liner and the outlet.

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Exceptions:

1. Floor surfaces under shower heads provided for rinsing laid directly on the ground are not required to comply with this section.
2. Shower compartments where the finished shower drain is depressed a minimum of 2 inches (51 mm) below the surrounding finished floor on the first floor level and the shower recess is poured integrally with the adjoining floor.

423.3 Reclaimed water. Change to read as shown.

423.3 Reclaimed water. Reclaimed water shall be permitted to be used for aesthetic uses such as decorative pools or fountains in accordance with Florida Department of Environmental Protection (DEP). Reuse of reclaimed water activities shall comply with the requirements of DEP rules.

423.1 Water connections. Change to read as shown.

423.1 Water connections. Baptisteries, ornamental and lily pools, aquariums, ornamental fountain basins, swimming pools and similar constructions, where provided with water supplies, shall be protected against backflow in accordance with Section 608.

Chapter 5, Water Heaters

502.3 Water heaters installed in garages. Change to read as shown.

502.3 Water heaters installed in garages. Water heaters shall be installed in accordance with the manufacturer's installation instructions, which shall be available on the job site at the time of inspection.

502.4 Seismic support. Change to read as shown.

502.4 Seismic supports. Reserved.

504.6. Requirements for discharge piping. Change to read as shown.

504.6 Requirements for discharge piping. The discharge piping serving a pressure relief valve, temperature relief valve or combination thereof shall:

1. Not be directly connected to the drainage system.
2. Discharge through an air gap located in the same room as the water heater.
3. Not be smaller than the diameter of the outlet of the valve served and shall discharge full size to the air gap.
4. Serve a single relief device and shall not connect to piping serving any other relief device or equipment.
5. Discharge to the floor, to an indirect waste receptor or to the outdoors. Where discharging to the outdoors in areas subject to freezing, discharge piping shall be first piped to an indirect waste receptor through an air gap located in a conditioned area.
6. Discharge in a manner that does not cause personal injury or structural damage.

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7. Discharge to a termination point that is readily observable by the building occupants.
8. Not be trapped.
9. Be installed so as to flow by gravity.
10. Not terminate more than 6 inches (152 mm) above the floor or waste receptor.
- ~~11. Not have a threaded connection at the end of such piping.~~
- ~~12. Not have valves or tee fittings.~~
13. Be constructed of those materials listed in Section 605.4 or materials tested, rated and approved for such use in accordance with ASME A112.4.1.

504.7 Required pan. Change to read as shown.

504.7 Required pan. Where water heaters or hot water storage tanks are installed above the ground floor space, in attics or ceiling areas, or within the habitable space, the tank or water heater shall be installed in a galvanized steel or other metal pan of equal corrosion resistance having a minimum thickness of 24 gage, 0.0276 inch (0.70 mm). Electric water heaters shall be installed in a metal pan as herein required or in a high-impact plastic pan of at least 0.0625 inch (1.59 mm) thickness.

Chapter 6, Water Supply and Distribution

602.3 Individual water supply. Change to read as shown.

602.3 Individual water supply. Where a potable public water supply is not available, individual sources of potable water supply meeting the requirements of Florida Statute 373 shall be utilized.

602.4 Reclaimed water. Change to read as shown.

602.4 Reclaimed water. Reclaimed water shall be permitted to be used for flushing water closets and urinals and other fixtures which do not require potable water in accordance with Florida Department of Environmental Protection (DEP) Chapter 62-610, F.A.C. Reuse of reclaimed water activities shall comply with the requirements of DEP Chapter 62-610, FAC.

603.1 Size of water service pipe. Change to read as shown.

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 pipe shall be ¾ inch (19.1 mm). Water services shall be sized in accordance with Table 603.1 or other approved methods.

Table 603.1 Minimum Water Service Size. Change to read as shown.

**TABLE 603.1
MINIMUM WATER SERVICE SIZE^a**

NO. OF FIXTURE UNITS FLUSH	DIAMETER OF WATER	RECOMMENDED METER SIZE	APPROX. PRESSURE LOSS METER +	NO. OF FIXTURE UNITS FLUSH
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TANK WC ^b	PIPE ^c	(inches) ^d	100' PIPE (psi) ^e	VALVE WC ^b
18	3/4	5/8	30	-
19-55	1	1	30	-
-	1	1	30	9
56-58	1-1/4	1	30	-
-	1-1/4	1	30	10-20
86-225	1-1/2	1-1/2	30	-
-	1-1/2	1-1/2	30	21-77
226-350	2	1-1/2	30	-
-	2	1-1/2	30	78-175
351-550	2	2	30	-
-	2	2	30	176-315
551-640	2-1/2	2	30	-
-	2-1/2	2	30	316-392
641-1340	3	3	22	-
-	3	3	22	393-940

Notes:

^aTable is applicable for both copper and plastic water piping.

^bSee Table 709.1 for fixture unit values.

^cMinimum water service shall be 3/4 " to control valve.

^dAll secondary submeters and backflow assemblies shall be at least the same size as the line in which they are installed.

^eTable based on minimum water main pressure of 50 psi.

604.1 General. Change to read as shown.

604.1 General. The design of the water distribution system shall conform to accepted engineering practice. Methods utilized to determine pipe sizes shall be approved. Table 603.1 shall be permitted to be used to size the water distribution system.

606.1 Location of full-open valves. Change to read as shown.

606.1 Location of full-open valves. Full-open valves shall be installed in the following locations:

1. On the building water service pipe from the public water supply near the curb.
2. On the water distribution supply pipe at the entrance into the structure.
3. On the base of every water riser pipe in occupancies other than multiple-family residential occupancies that are two stories or less in height and in one- and two-family residential occupancies.
4. On the top of every water down-feed pipe in occupancies other than one- and two-family residential occupancies.
5. On the entrance to every water supply pipe to a dwelling unit, except where supplying a single fixture equipped with individual stops.
6. On the water supply pipe to a gravity or pressurized water tank.
7. On the water supply pipe to every water heater.

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606.2 Location of shutoff valves. Change to read as shown. Overlap exists. Needs resolution.

- 606.2 Location of shutoff valves.** Shutoff valves shall be installed in the following locations:
1. On the fixture supply to each plumbing fixture except in individual guestrooms that are provided with unit shutoff valves in hotels, motels, boarding houses and similar occupancies.
 2. On the water supply pipe to each sillcock in other than one- and two-family residential occupancies.
 3. On the water supply pipe to each appliance or mechanical equipment.

Exception: Shutoff valves are not required on tubs and showers in residential construction.

Section 607 Hot Water Supply System. Change to read as shown.

Section 607 Hot Water Supply System

607.1 Where required. Change to read as shown. Overlap exists. Needs resolution.

607.1 Where required. In occupied structures, hot water shall be supplied to all plumbing fixtures and equipment utilized for bathing, washing, culinary purposes, cleansing, laundry or building maintenance.

Exception: In nonresidential occupancies, hot water or tempered water shall be supplied for bathing and washing purposes. The delivery of cold water only shall be permitted to be delivered from all hand washing facilities except where hot water is required by law.

607.1.1 Hand washing lavatories. Change to read as shown. Overlap exists. Needs resolution.

607.1.1 Hand washing lavatories. In public food service establishments, food establishments or where otherwise required by law, lavatories intended for the purpose of employee hand washing shall be equipped with hot or tempered water.

Table 607.1 Minimum Pipe Insulation. Add to read as shown.

**TABLE 607.1 MINIMUM PIPE INSULATION (in)
Domestic and Service Hot Water Circulating Systems^a**

Fluid Design Operating Temperature	Insulation Conductivity		Nominal Pipe Diameter		
	Conductivity Range ^b Btu•in/(h•ft ³ •1°F)	Mean Temperature Rating	Run-outs ^c Up to 2"	Up to 2"	2-1/2" and up
Range, 1°F 105 and					

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greater	0.24 - 0.28	100	0.5	1.0	1.5
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- a. Applies to circulating sections of service or domestic hot water systems and first 8' from storage tank for commercial non-circulating systems. For residential, see Section 612.1.ABC.5 of Chapter 13 of the *Florida Building Code, Building*.
- b. For insulation outside the stated conductivity range, the minimum thickness shall be determined in accordance with Equation 4-2 in 411.1ABC.2.1 of Chapter 13 of the *Florida Building Code, Building*.
- c. Runouts to individual terminal units not exceeding 12' in length.

607.2.1 Circulating systems. Change to read as shown.

607.2.1 Circulating systems. Piping insulation shall conform to the requirements of Table 607.1.

608.3 Devices, appurtenances, appliances and apparatus. Change to read as shown.

608.3 Devices, appurtenances, appliances and apparatus. All devices, appurtenances, appliances and apparatus intended to serve some special function, such as sterilization, distillation, processing, cooling, or storage of ice or foods, and that connect to the water supply system, shall be provided with protection against backflow and contamination of the water supply system. Water pumps, filters, softeners, tanks, **commercial drinking water dispensers** and all other appliances and devices that handle or treat potable water shall be protected against contamination.

608.8 Identification of potable and non potable water. Change to read as shown.

608.8 Identification of potable and non potable water. In all buildings where two or more water distribution systems, one potable water and the other nonpotable water, are installed, each system shall be identified either by color marking or metal tags as required by ASME A13.1. Reclaimed water systems shall be identified using color coded Pantone Purple 522C and marked with the statement “NONPOTABLE WATER - NOT FOR HUMAN CONSUMPTION.”

608.17 Protection of individual water supplies. Change to read as shown.

608.17 Protection of individual water supplies. Reserved.

Section 610 Disinfection of Potable Water System.

610.1 General. Change to read as shown.

610.1 General. New or repaired potable water systems shall be purged of deleterious matter and, where required by the Administrative Authority, disinfected prior to utilization. The method to be followed shall be that prescribed by the health authority or water purveyor having jurisdiction or, in the absence of a prescribed method, the procedure described in either AWWA C651 or AWWA C652, or as described in this section. This requirement shall apply to “on-site” or “in-plant” fabrication of a system or to a modular portion of a system.

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1. The pipe system shall be flushed with clean, potable water until dirty water does not appear at the points of outlet.
2. The system or part thereof shall be filled with a water/chlorine solution containing at least 50 parts per million (50 mg/L) of chlorine, and the system or part thereof shall be valved off and allowed to stand for 24 hours; or the system or part thereof shall be filled with a water/chlorine solution containing at least 200 parts per million (200 mg/L) of chlorine and allowed to stand for 3 hours.
3. Following the required standing time, the system shall be flushed with clean potable water until the chlorine is purged from the system.
4. The procedure shall be repeated where shown by a bacteriological examination that contamination remains present in the system.

Section 611 Water Treatment Units. Change to read as shown.

Section 611 Water Treatment Units

611.1 Change to read as shown.

611.1 When reduction of aesthetic contaminants, such as chlorine, taste, odor or sediment are claimed, the drinking water treatment units must meet the requirements of NSF 42, Drinking Water Treatment Units-Aesthetic Effects, or Water Quality Association Standard S-200, Household and Commercial Water Filters (In-Line). When reduction of regulated health contaminants is claimed, such as inorganic or organic chemicals or radiological substances, the drinking water treatment unit must meet the requirements of NSF 53, Drinking Water Treatment Units-Health Effects.

611.2 Change to read as shown.

611.2 Reverse osmosis drinking water treatment systems shall meet the requirements of NSF 58, Reverse Osmosis Drinking Water Treatment Units, or Water Quality Association Standard S-300, Point-of-Use Low Pressure Reverse Osmosis Drinking Water Systems.

611.3 Change to read as shown.

611.3 When reduction of regulated health contaminants is claimed, such as inorganic or organic chemicals, or radiological substances, the reverse osmosis drinking water treatment unit must meet the requirements of NSF 58, Reverse Osmosis Drinking Water Treatment Systems.

611.4 Add to read as shown.

611.4 Waste or discharge from reverse osmosis or other types of water treatment units must enter the drainage system through an air gap or be equipped with an equivalent backflow-prevention device.

Section 612 Well Pumps and Tanks Used for Private Potable Water Systems. Change to read as shown.

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Section 612 Well Pumps And Tanks Used For Private Potable Water Systems

612.1 Pumps. Change to read as shown.

612.1 Pumps. Well pumps used for potable water shall comply with Sections 612.1.1 and 612.1.2

612.1.1 Pump installation. Add to read as shown.

612.1.1 Pump installation. Pumps shall be installed for operation without repriming or breaking suction. Pumps shall be connected to the well head by means of a union, companion flange or compression coupling in such a manner that it is accessible for maintenance, repair and removal.

612.1.2 Pump sizing. Minimum pump size shall be determined by Table 612.1.

612.2 Pressure tanks. Add to read as shown.

612.2 Pressure tanks. Tanks relying on expansion of a flexible membrane within a restricting container, or tanks with direct water-to-air interface to provide pressure in the water system, shall be used. All pressure tanks for storing potable water under pressure, including those having an air-space for pressure for expansion, shall be identified by seal, label or plate indicating the manufacturer's name and model number and shall meet the following specifications:

1. Pressure tank drawdown shall be a minimum of 1 gallon (3.8 L) for every gallon per minute produced by the pump.

Exception: Pump start applications, constant pressure devices and variable speed pumps.

2. Pressure tanks shall be constructed of steel, fiberglass or comparable materials. Tanks to be buried shall be built by the manufacturer specifically for underground use. Fiberglass or other nonmetallic tanks to be buried shall have the structural strength to prevent collapse.

612.3 Piping. Add to read as shown.

612.3 Piping. Piping associated with pumps and tanks shall comply with Sections 612.3.1 through 612.3.3.

Table P612.1 Minimum Private Potable Water System Pump Size Add to read as shown.

**TABLE P612.1
MINIMUM PRIVATE POTABLE WATER SYSTEM PUMP SIZE**

	Bathrooms in Home				
	1	1 – 1 ½	2- 2 ½	3 – 4	5 - 6
Minimum pump size	7 gpm	10 gpm	14 gpm	17 gpm	21 gpm

Notes:

1. Values given are average and do not include higher or low extremes.
2. Installations over 6 bathrooms shall be approved by the code official.

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612.3.1 Drop pipe. Add to read as shown.

612.3.1 Drop pipe. The drop pipe from the submersible pump to the first fitting past the well seal shall be either galvanized steel, stainless steel or PVC Schedule 80 threaded/coupled or lock joint pipe. The drop pipe for a single pipe, deep well jet pump shall be either galvanized steel or stainless steel. The drop pipe for a double pipe, deep well jet pump shall be either galvanized steel on the suction side and/or minimum PVC schedule 40 on the pressure side.

612.3.2 Pump discharge pipe sizing. Add to read as shown.

612.3.2 Pump discharge pipe sizing. For submersible pumps, pipe size shall be equal to the pump discharge. Piping for all other types of pumps shall be sized in accordance with the pump manufacturer's specifications.

612.3.3 Pressure tank pipe sizing. Add to read as shown.

612.3.3 Pressure tank pipe sizing. Piping size for the offset of the pressure tank shall use the piping friction loss charts for the piping material used.

612.4 Electrical wiring. Add to read as shown.

612.4 Electrical wiring. All wiring shall be installed in accordance with Chapter 27 of the *Florida Building Code, Building*.

612.5 Disinfection. Add to read as shown.

612.5 Disinfection. The pump installer shall disinfect any potable well and water system in accordance with Section 610.

612.6 Valves. Add to read as shown.

612.6 Valves. A pressure relief valve shall be installed on any pumping system that can produce pressures of 75 psi (517 kPa) or greater. A check valve shall be installed at the well head of submersible pumps.

Chapter 7, Sanitary Drainage

701.2 Sewer required. Change to read as shown.

701.2 Sewer required. Every building in which plumbing fixtures are installed and all premises having drainage piping shall be connected to a public sewer, where available, or an approved private sewage disposal system.

708.3.2 Building sewers. Change to read as shown.

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708.3.2 Building sewers. Building sewers shall be provided with cleanouts located not more than 100 feet (30 480 mm) apart measured from the upstream entrance of the cleanout. For building sewers 12 inches (305 mm) and larger, manholes shall be provided and located not more than 200 feet (60 960 mm) from the junction of the building drain and building sewer, at each change in direction and at intervals of not more than 400 feet (122 m) apart. Manholes and manhole covers shall be of an approved type.

708.8 Clearances. Change to read as shown.

708.8 Clearances. Cleanouts on 6-inch (153 mm) and smaller pipes shall be provided with a clearance of not less than 18 inches (457 mm) for rodding. Cleanouts on 8-inch (203 mm) and larger pipes shall be provided with a clearance of not less than 36 inches (914 mm) for rodding.

714.4 Alternative engineered design. Add to read as shown.

714.4 Alternative engineered design. The design, documentation, inspection, testing and approval of an alternative engineered design plumbing system shall comply with Sections 714.4.1 through 714.4.6.

714.4.1 Design criteria. Add to read as shown.

714.4.1 Design criteria. An alternative engineered design shall conform to the intent of the provisions of this code and shall provide an equivalent level of quality, strength, effectiveness, fire resistance, durability and safety. Material, equipment or components shall be designed and installed in accordance with the manufacturer's installation instructions.

714.4.2 Submittal. Add to read as shown.

714.4.2 Submittal. The registered design professional shall indicate on the permit application that the plumbing system is an alternative engineered design. The permit and permanent permit records shall indicate that an alternative engineered design was part of the approved installation.

714.4.3 Technical data. Add to read as shown.

714.4.3 Technical data. The registered design professional shall submit sufficient technical data to substantiate the proposed alternative engineered design and to prove that the performance meets the intent of this code.

714.4.4 Construction documents. Add to read as shown.

714.4.4 Construction documents. The registered design professional shall submit to the code official two complete sets of signed and sealed construction documents for the alternative engineered design. The construction documents shall include floor plans and a riser diagram of the work. Where appropriate, the construction documents shall indicate the direction of flow; all pipe sizes, grade of horizontal piping, loading and location of fixtures and appliances.

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714.4.5 Design approval. Add to read as shown.

714.4.5 Design approval. When the code official determines that the alternative engineered design conforms to the intent of this code, the plumbing system shall be approved. If the alternative engineered design is not approved, the code official shall notify the registered design professional in writing, stating the reasons therefor.

714.4.6 Inspection and testing. Add to read as shown.

714.4.6 Inspection and testing. The alternative engineered design shall be tested and inspected in accordance with the requirements of Section 312.

Chapter 9, Vents

904.1 Roof extension. Change to read as shown.

904.1 Roof extension. All open vent pipes that extend through a roof shall be terminated at least 6 inches (152 mm) above the roof and not less than 2 inches (51 mm) above the invert of the emergency overflow, 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.

Chapter 10, Traps, Interceptors and Separators

1003.2 Approval. Change to read as shown.

1003.2 Approval. The size, type and location of each interceptor and of each separator shall be approved by the plumbing official. Where the interceptor or separator is located within a private sewage disposal system, such interceptor or separator shall be approved by the health official. The interceptor or separator shall be designed and installed in accordance with the manufacturer's instructions and the requirements of this section. Wastes that do not require treatment or separation shall not be discharged into any interceptor or separator.

1003.3 Grease traps and grease interceptors. Change to read as shown.

1003.3 Grease traps and grease interceptors. Grease traps and grease interceptors shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.2.

1003.5 Grease interceptors. Change to read as shown.

1003.5 Grease interceptors. Grease interceptors shall be water and gas tight. Each interceptor shall be engineered to withstand the load, such as from vehicular traffic, to be placed on the interceptor. The minimum tank volume of grease interceptors shall be 750 gallons (2839 L), and

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the maximum volume shall be 1,250 gallons (4731 L). Interceptors shall be permitted to be installed in series.

1003.5.1 Grease interceptor capacity. Add to read as shown.

1003.5.1 Grease interceptor capacity. The minimum grease retention capacity for interceptors shall be at least two times the flow-through rate.

1003.5.2 Construction of interceptor. Add to read as shown.

1003.5.2 Construction of interceptor. Each interceptor shall be constructed in accordance with Rule 64E-6, Florida Administrative Code. Minimum depth of the liquid shall be 42 inches (1067 mm). Each compartment shall be accessible with a minimum clearance of 18 inches (457 mm) square or in diameter.

1003.5.3 Inlet and outlet piping. Add to read as shown.

1003.5.3 Inlet and outlet piping. The inlet and outlet piping shall have a two-way cleanout tee installed. Inlet piping shall enter at 2½ inches (64 mm) above the liquid level. Inlet piping shall connect to a tee, sweep or baffle, which shall extend to 24 inches (610 mm) below the water level. The outlet pipe shall start at 8 inches (203 mm) above the bottom of the interceptor and extend vertically to a tee. The tee and pipe shall be no less than 4 inches (102 mm) in diameter. The tee shall be installed with the run in the vertical direction.

Table 1003.5.1: Sizing Formulas For Grease Interceptors Private Sewage Disposal System. Add to read as shown.

Table 1003.5.1: Sizing Formulas For Grease Interceptors Private Sewage Disposal System

SIZING FORMULA FOR RESTAURANTS:	OTHER ESTABLISHMENTS WITH COMMERCIAL KITCHENS:
$(S) \times (GS) \times (HR/12) \times (LF) = \text{Effective capacity of grease interceptor in gallons}$ Where: S = Number of seats in dining area GS = Gallons of waste water per seat (Use 25 gallons for restaurants with china dishes and/or automatic dishwasher) (Use 10 gallons for restaurants with paper or baskets and no dishwashers) HR = Number of hours	$(M) \times (GM) \times (LF) = \text{Effective capacity of grease interceptor in gallons}$ Where: M = Meals prepared per day GM = Gallons of waste water per meal (Use 5 gallons) LF = Loading Factor (Use 1.00 with dishwashing machine and 0.75 without dishwashing machine)

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restaurant is open LF = Loading Factor (Use 2.00 interstate highway; 1.50 other freeways; 1.25 recreational area; 1.00 main highway; 0.75 other highway)	
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Note: For other than private sewage disposal systems, reduce gallon values by 25%.

Chapter 11, Storm Drainage

1106.7 Scupper sizing. Change to read as shown.

1106.7 Scupper sizing. Scuppers shall be sized in accordance with Table 1106.7.

Table 1106.7 Sizing Scuppers For A 5 In. Per Hour Rate Of Rainfall. Add to read as shown.

TABLE 1106.7

SIZING SCUPPERS FOR A 5 IN. PER HOUR RATE OF RAINFALL

	HORIZONTALLY PROJECTED ROOF AREA (SQUARE FEET)						
HEAD IN INCHES	LENGTH OF WEIR IN INCHES						
	4	6	8	12	16	20	24
1	230	346	461	692	923	1153	1384
2	641	961	1282	1923	2564	3205	3846
3	1153	1730	2307	3461	4615	5769	6923
4	1794	2692	3589	5384	7179	8974	10769

Note: to adjust this table for other than a 5" design rain fall rate multiply the square footage on the table by 5 then divide by the local design rain fall rate.

Example: For 4" of design rainfall rate, a 4" long scupper with a 1" head would accommodate 287 square feet. $(230 \times 5) \div 4 = 287$.

Chapter 13, Referenced Standards

Referenced Standards. Change to read as shown.

ASME American Society of Mechanical Engineers
 Three Park Avenue
 New York, NY 10016-5990

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Standard reference number	Title	Referenced in code section number
A13.1-81	Scheme for Identification of Piping System	608.8

Florida Codes

**Florida Building Commission
c/o Florida Department of Community Affairs
Building Codes and Standards
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100**

Standard Reference Number	Title	Referenced in code section number
FBC-B 04	Florida Building Code, Building	201.3, 305.4, 307.1, 307.2, 307.3, 308.2, 309.1, 310.1, 310.3, 315.1, 403.1, Table 403.1, 404.1, 407.3, 417.6, 502.6, 606.5.2, 1106.5
Ch. 11	Florida Building Code, Building - Accessibility	404.1.1
Ch. 62-610	Florida Administrative Code-Reuse of Reclaimed Water and Land Application	602.4
Ch. 64E-6	Florida Administrative Code-Standards for Onsite Sewage and Disposal Systems	701.2, 1003.5.2
Ch. 373	Florida Statute, Water Resources	602.3
Ch. 381	Florida Statute, Food Products	315.1
Ch. 500	Florida Statute, Lodging and Food Service Establishments	315.1
Ch. 509	Florida Statute, Public Lodging and Food Service Establishments	315.1, 403.1.1
Ch. 553.86	Florida Statute, Public Restrooms	403.1.1
Ch. 13	Florida Building Code, Building-Energy Efficiency	313.1, 607.2, 607.2.1
Ch. 27	Florida Building Code, Building-Electrical (National Electrical Code, NFPA 70)	201.3, 502.1, 504.3, 1113.1.3
FEBC—04	Florida Existing Building Code	101.2
FBC-FG 04	Florida Building Code, Fuel Gas	101.2, 201.3, 502.1
FBC-M 04	Florida Building Code, Mechanical	201.3, 307.6, 310.1, 422.9, 502.1, 612.1, 1202.1
FRC-04	Florida Residential Code	101.2
FFPC-04	Florida Fire Prevention Code	201.3, 1201.1

**ICC International Code Council
900 Montclair Road
Birmingham, Alabama 35213-1206**

Standard reference number	Title	Referenced in code section number
ICC/ANSI A117.1-98	Accessible and Usable Buildings and Facilities	403.7.1

Appendix A: Plumbing Fee Schedule. Change to read as shown.

APPENDIX A: Plumbing Fee Schedule. Reserved.

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Appendix F Proposed Construction Building Codes for Turf and Landscape Irrigation Systems. Change to read as shown.

APPENDIX F Proposed Construction Building Codes for Turf and Landscape Irrigation Systems

PART 1: GENERAL

A. Description.

- 1. Purpose.** To establish uniform minimum standards and requirements for the design and installation of safe, cost effective, reliable irrigation systems for turf and landscape areas which promote the efficient use and protection of water and other natural resources.
- 2. Definition.** Turf and landscape irrigation systems apply water by means of permanent above-ground or subsurface sprinkler or microsprinkler equipment under pressure.
- 3. Scope.** These construction codes shall apply to all irrigation systems used on residential and commercial landscape areas. They address the design requirements, water quality, materials, installation, inspection, and testing for such systems. These construction codes do not apply to irrigation systems for golf courses, nurseries, greenhouses, or agricultural production systems.
- 4. Application.** All new irrigation systems and any new work to existing irrigation systems shall conform to the requirements of this code.
- 5. Application to Existing Irrigation Installations.** Nothing contained in this code shall be deemed to require any irrigation system or part thereof, which existed prior to the establishment of this code, to be changed altered or modified to meet the standards of this code.

B. Permits.

- 1. Permits Required.** It shall be unlawful to construct, enlarge, alter, modify, repair, or move any irrigation system or part thereof; or to install or alter any equipment for which provision is made or the installation of which is regulated by this code; without first having filed application and obtained a permit therefore from the building official. A permit shall be deemed issued when signed by the building official and impressed with the seal of the governmental agency issuing said permit.
- 2. Exceptions.** All work where exempt from permit shall still be required to comply with the code. No permit shall be required for general maintenance or repairs which do not change the structure or alter the system and the value of which does not exceed \$600.00 in labor and material based on invoice value.

C. Preconstruction Submittals.

1. Plans or Drawings.

- a. Single-Family Residence.** Provide design drawings or shop drawings, where required, for the installation prior to start of construction. Design drawings shall be clearly readable, to reasonable scale, show the entire site to be irrigated, and include all improvements. Drawings can be prepared by a properly licensed qualified contractor.
- b. Commercial, Industrial, Municipal and Multiple-family.** Provide professionally designed drawings prior to start of construction. Design drawings shall be clearly readable, to reasonable scale, show the entire site to be irrigated, including all improvements, and shall include but not be limited to: date, scale, revisions, legend, specifications which list all aspects of equipment and assembly thereof, water source, water meter and/or point of connection, backflow prevention devices, pump station size, pump station location, design operating pressure and flow rate per

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zone, locations of pipe, controllers, valves, sprinklers, sleeves, gate valves, etc. The plans and specifications shall be prepared in accordance with Section 106 of the *Florida Building Code, Building*.

D. Definitions.

ABS Pipe: Acrylonitrile-butadiene-styrene black, semi-rigid, plastic pipe extruded to IPS. ABS pipe is in limited use in present day irrigation systems. Solvent weld fittings are used with this pipe (see ASTM D 1788).

Air Release Valve: A valve which will automatically release to the atmosphere accumulated small pockets of air from a pressurized pipeline. A small orifice is used to release air at low flow rates. Air release valves are normally required at all summits of mainline and submain pipelines in an irrigation system.

Anti-Siphon Device: A safety device used to prevent back-flow of irrigation water to the water source by back-siphonage.

Application Rate: The average rate at which water is applied by an irrigation system, sometimes also called precipitation rate. Units are typically inches/hr or mm/hr.

Arc: The angle of coverage of a sprinkler in degrees from one side of throw to the other. A 90-degree arc would be a quarter-circle sprinkler.

Atmospheric Vacuum Breaker: An anti-siphon device which uses a floating seat to direct water flow. Water draining back from irrigation lines is directed to the atmosphere to protect the potable water supply.

Automatic Control Valve: A valve in a sprinkler system which is activated by an automatic controller by way of hydraulic or electrical control lines and controls a single device or multiple devices.

Automatic System: An irrigation system which operates following a preset program entered into an automatic controller.

Backflow Prevention Device: An approved safety device used to prevent pollution or contamination of the irrigation water supply due to backflow from the irrigation system.

Belled (Pipe): Pipe which is enlarged at one end so that the spigot end of another length of pipe can be inserted into it during the assembly of a pipeline.

Block (of sprinklers): A group of sprinklers controlled by one valve. Also called zones or subunits.

Block System: An irrigation system in which several groups of sprinklers are controlled by one valve for each group.

Bubbler Irrigation: The application of water to the soil surface or a container as a small stream or fountain. Bubbler emitter discharge rates are greater than the 0.5 to 2 gph characteristic of drip emitters, but generally less than 60 gph.

Check Valve: A valve which permits water to flow in one direction only.

Chemical Water Treatment: The addition of chemicals to water to make it acceptable for use in irrigation systems

Chemigation: The application of water soluble chemicals by mixing or injecting with the water applied through an irrigation system.

Control Lines: Hydraulic or electrical lines which carry signals (to open and close the valves) from the controller to the automatic valves.

Controller: The timing mechanism and its mounting box. The controller signals the automatic valves to open and close on a pre-set program or based on sensor readings.

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Contractor: Any person who engages in the fabrication and installation of any type of irrigation system on a contractual basis in accordance with all stipulations receiving his compensation.

Coverage: Refers to the way water is applied to an area.

Cycle: Refers to one complete run of a controller through all programmed controller stations.

Demand (or irrigation demand): Refers to the irrigation requirements of the irrigated area. Demand primarily depends on the type of crop, stage of growth, and climatic factors.

Design Area: The specific land area to which water is to be applied by an irrigation system.

Design Emission Uniformity: An estimate of the uniformity of water application with an irrigation system.

Design Pressure: The pressure at which the irrigation system or certain components are designed to operate. The irrigation system design pressure is that measured at the pump discharge or entrance to the system if there is no pump, and a zone design pressure is the average operating pressure of all emitters within that zone.

Direct Burial Wire: Plastic-coated single-strand copper wire for use as control line for electric valves.

Discharge Rate: The instantaneous flow rate of an individual sprinkler, emitter, or other water emitting device, or a unit length of line-source micro irrigation tubing. Also, the flow rate from a pumping system.

Double Check Valve: An approved assembly of two single, independently-acting check valves with test ports to permit independent testing of each check valve.

Drain Valve: A valve used to drain water from a line. The valve may be manually or automatically operated.

Drip Irrigation: The precise low-rate application of water to or beneath the soil surface near or directly into the plant root zone. Applications normally occur as small streams, discrete or continuous drops, in the range of 0.5 to 2.0 gph.

Effluent water: Also referred to as reclaimed or gray water is wastewater which has been treated per Florida Statute, §403.086 and is suitable for use as a water supply for irrigation systems.

Emitters: Devices which are used to control the discharge of irrigation water from lateral pipes. This term is primarily used to refer to the low flow rate devices used in micro irrigation systems.

Fertigation: The application of soluble fertilizers with the water applied through an irrigation system.

Filtration System: The assembly of physical components used to remove suspended solids from irrigation water. These include both pressure and gravity type devices, such as settling basins, screens, media filters, and centrifugal force units (vortex sand separators).

Flexible Swing Joint: A flexible connection between the lateral pipe and the sprinkler which allows the sprinkler to move when force is applied to it.

Flow Meters: Devices used to measure the volume of flow of water (typically in gallons), or flow rates (typically in gpm), and to provide data on system usage.

Gauge (Wire): Standard specification for wire size. The larger the gauge number, the smaller the wire diameter.

Head: A sprinkler head. Sometimes used interchangeably with and in conjunction with "Sprinkler."

Infiltration Rate: The rate of water flow across the surface of the soil and into the soil profile. Units are usually inches/hr.

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Irrigation: Application of water by artificial means, that is, means other than natural precipitation. Irrigation is practiced to supply crop water requirements, leach salts, apply chemicals, and for environmental control including crop cooling and freeze protection.

Irrigation Water Requirement or Irrigation Requirement: The quantity of water that is required for crop production, exclusive of effective rainfall.

Landscape: Refers to any and all areas which are ornamentally planted, including but not limited to turf, ground covers, flowers, shrubs, trees, and similar plant materials as opposed to agricultural crops grown and harvested for monetary return.

Lateral: The water delivery pipeline that supplies water to the emitters or sprinklers from a manifold or header pipeline downstream of the control valve.

Line-Source Emitters: Lateral pipelines which are porous or contain closely-spaced perforations so that water is discharged as a continuous band or in overlapping patterns rather than discrete widely-spaced points along the pipeline length.

Looped System: A piping system which allows more than one path for water to flow from the supply to the emitters or sprinklers.

Mainline: A pipeline which carries water from the control station to submains or to manifolds or header pipelines of the water distribution system.

Manifold: The water delivery pipeline that conveys water from the main or submain pipelines to the laterals. Also sometimes called a header pipeline.

Manual System: A system in which control valves are manually operated rather than operated by automatic controls.

Meter Box: A concrete or plastic box buried flush to grade which houses flow (water) meters or other components.

Microirrigation: The frequent application of small quantities of water directly on or below the soil surface, usually as discrete drops, tiny streams, or miniature sprays through emitters placed along the water delivery pipes (laterals). Microirrigation encompasses a number of methods or concepts, including drip, subsurface, bubbler, and spray irrigation. Previously known as trickle irrigation.

Overlap: The amount one sprinkler pattern overlaps another one when installed in a pattern. Expressed as a percentage of the diameter of coverage.

PE Pipe. Flexible polyethylene pipe for use in irrigation systems, normally manufactured with carbon black for resistance to degradation by ultraviolet radiation.

Potable Water: Water which is suitable in quality for human consumption and meets the requirements of the Health Authority having jurisdiction.

Pressure Relief Valve: A valve which will open and discharge to atmosphere when the pressure in a pipeline or pressure vessel exceeds a pre-set point to relieve the high-pressure condition.

Pressure Vacuum Breaker: A backflow prevention device which includes a spring-loaded check valve and a spring-loaded vacuum breaker to prevent the backflow of irrigation system water to the water source.

Pumping Station: The pump or pumps that provide water to an irrigation system, together with all of the necessary accessories such as bases or foundations, sumps, screens, valves, motor controls, safety devices, shelters and fences.

PVC Pipe: Polyvinyl chloride plastic pipe made in standard thermoplastic pipe dimension ratios and pressure rated for water. Manufactured in accordance with AWWA C-900 or ASTM D-2241.

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Rain Shut off Device: A calibrated device that is designed to detect rainfall and override the irrigation cycle of the sprinkler system when a predetermined amount of rain fall has occurred.

Riser: A threaded pipe to which sprinklers or other emitters are attached for above-ground placement.

Sleeve: A pipe used to enclose other pipes, wire, or tubing; usually under pavement, sidewalks, or planters.

Spacing: The distance between sprinklers or other emitters.

Spray Irrigation: The micro irrigation application of water to the soil or plant surface by low flow rate sprays or mists.

Sprinkler: The sprinkler head. Sometimes called "Head."

Supply (Water Source): The origin of the water used in the irrigation system.

Swing Joint: A ridged connection between the lateral pipe and the sprinkler, utilizing multiple ells and nipples, which allows the sprinkler to move when force is applied to it.

Tubing: Generally used to refer to flexible plastic hydraulic control lines which are usually constructed of PE or PVC.

PART II — DESIGN CRITERIA

A. Design Defined. Within the scope of this code, irrigation system design is defined as the science and art of properly selecting and applying all components within the system.

B. Water Supply.

1. The water source shall be adequate from the standpoint of volume, flow rate, pressure, and quality to meet the irrigation requirements of the area to be irrigated, as well as other demands, if any, both at the time the system is designed and for the expected life of the system.

2. If the water source is effluent, it shall meet the advanced waste treatment standard as set forth in Florida Statute §403.086(4) as well as any other standard as set forth by the controlling governmental agency.

C. Application Uniformity. Irrigation application uniformity describes how evenly water is distributed within an irrigation zone. Irrigation system uniformity is the uniformity coefficient. Use application rates which avoid runoff and permit uniform water infiltration into the soil. Land slope, soil hydraulic properties, vegetative ground cover, and prevailing winds will be considered when application rates are specified. Sprinkler irrigation systems should be designed with the appropriate uniformity for the type of plant being grown and the type of soil found in that area. The general watering of different types of plants as one group without regard to their individual water requirements is to be avoided if at all possible. Different types of sprinklers with different application rates, i.e., spray heads vs. rotor heads, shall not be combined on the same zone or circuit.

D. System Zoning. The irrigation system should be divided into zones based on consideration of the following:

1. Available flow rate.
2. Cultural use of the area.
3. Type of vegetation irrigated, i.e., turf, shrubs, native plants, etc.
4. Type of sprinkler, i.e., sprinklers with matching precipitation rates.
5. Soil characteristics.

E. Sprinkler/Emitter Spacing and Selection. Sprinkler/Emitter spacing will be determined considering the irrigation requirements, hydraulic characteristics of the soil and device, and

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water quality with its effect on plant growth, sidewalks, buildings, and public access areas. When using square spacing sprinklers should not be spaced farther apart than 55 percent of their manufacturer-specified diameters of coverage for prevailing wind speeds of 5 miles per hour (mph) or less. Spacing should not exceed 50 percent of sprinkler diameters of coverage for wind speeds of 5 to 10 mph, and 45 percent for prevailing wind speeds greater than 10 mph. When using triangular spacing the above overlap percentages can be reduced by five percent. Water conservation will be emphasized by minimizing irrigation of non-vegetated areas. Microirrigation systems should be designed using the Emission Uniformity concept. Space microirrigation emitters to wet 100 percent of the root zone in turf areas and 50 percent of the root zone for shrubs and trees.

F. Pipelines. Pipelines will be sized to limit pressure variations so that the working pressure at all points in the irrigation system will be in the range required for uniform water application. Velocities will be kept to 5 feet (1524 mm) per second.

G. Wells.

1. Well diameters and depths are to be sized to correspond to the irrigation system demand. Refer to SCS Code FL-642 and local water management district regulations
2. Well location and depth shall be in compliance with applicable state, water management district and local codes.

H. Pumps.

1. Pump and motor combinations shall be capable of satisfying the total system demand without invading the service factor of the motor except during start-up and between zones.
2. Pumps shall be positioned with respect to the water surface in order to ensure that the net positive suction head required (NPSHr) for proper pump operation is achieved.
3. The pumping system shall be protected against the effects of the interruption of water flow.

I. Control Valves.

1. Control valve size shall be based on the flow rate through the valve. Friction loss through the valve an approved air gap separation or a reduced pressure should not exceed 10 percent of the static mainline head.
2. Control systems using hydraulic communication between controller and valve(s) shall comply with the manufacturer's recommendations for maximum distance between controller and valve both horizontally and vertically (elevation change).
3. The size of the electrical control wire shall be in accordance with the valve manufacturer's specifications based on the solenoid in-rush amperage and the circuit length, considering the number of solenoids operating on the circuit. Minimum of # 14 AWG single strand control wire shall be used on all systems, except individual, single lot residential systems.
4. Locate manually operated control valves so that they can be operated without wetting the operator.

J. Automatic Irrigation Controller. Automatic irrigation controllers must be UL approved and have an adequate number of stations and power output per station to accommodate the irrigation system design. The controller shall be capable of incorporating a rain shut off device to override the irrigation cycle when adequate rainfall has occurred, as required by Florida Statutes, Section 373.62.

K. Chemical Injection.

1. Chemical injection systems for the injection of fertilizer, pesticides, rust inhibitors, or any other injected substance will be located and sized according to the manufacturers' recommendations.

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2. Injection systems will be located downstream of the applicable backflow prevention devices as required by Florida Statutes, Section 487.021 and 487.055; the Environmental Protection Agency (EPA); Pesticide Regulation Notice 87-1; or other applicable codes.

3. If an irrigation water supply is also used for human consumption, an air gap separation or an approved reduced pressure principal backflow prevention device is required.

L. Backflow Prevention Methods. Provide backflow prevention assemblies at all cross connections with all water supplies in accordance with county, municipal or other applicable codes to determine acceptable backflow prevention assembly types and installation procedures for a given application. In the event of conflicting regulation provide the assembly type which gives the highest degree of protection.

1. Irrigation systems into which chemicals are injected shall conform to Florida state law (Florida Statutes 487.021 and 487.055) and Environmental Protection Agency Pesticide Regulation Notice 87-1, which requires backflow prevention regulations to be printed on the chemical label.

2. For municipal water supplies, chemical injection equipment must be separated from the water supply by an approved air gap separation or a reduced pressure principle assembly that is approved by the Foundation for CCC and the Hydraulic Research Institute. The equipment must also comply with ASSE #1013 to protect the water supply from back-siphonage and back-pressure.

3. For other water supplies, Florida State law, EPA regulations, or other applicable local codes must be followed. In the absence of legal guidelines at least a PVB should be used.

PART III — STANDARDS

1. American Society of Agricultural Engineers (ASAE) Standards:

ASAE S330.1: Procedure for sprinkler distribution testing for research purposes.

ASAE S376.1: Design, installation, and performance of underground thermoplastic irrigation pipelines.

ASAE S397.1: Electrical service and equipment for irrigation.

ASAE S435: Drip/Trickle Polyethylene Pipe used for irrigation laterals.

ASAE S398.1: Procedure for sprinkler testing and performance reporting.

ASAE S339: Uniform classification for water hardness.

ASAE S394: Specifications for irrigation hose and couplings used with self-propelled, hose-drag agricultural irrigation system.

ASAE EP400.1: Designing and constructing irrigation wells.

ASAE EP405: Design, installation, and performance of trickle irrigation systems.

ASAE EP409: Safety devices for applying liquid chemicals through irrigation systems.

2. ASTM International Standards:

ASTM D 2241: Poly (Vinyl Chloride) (PVC) Plastic pipe (SDR-PR).

ASTM D 2239: Specification for polyethylene (PE) plastic pipe (SDR-PR).

ASTM D 2466: Specification for socket-type poly (vinyl chloride) (PVC) and chlorinated poly (vinyl chloride) (CPVC) plastic pipe fittings, Schedule 40.

ASTM D 2855: Standard recommended practice for making solvent cemented joints with polyvinyl chloride pipe and fittings.

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ASTM D 3139: Specification for joints for plastic pressure pipes using flexible elastomeric seals.

ASTM F 477: Specification for elastomeric seals (gaskets for joining plastic pipe).

3. American Water Works Association (AWWA) standards:

AWWA C-900: PVC pipe standards and specifications

4. American Society of Sanitary Engineers (ASSE) Standards:

ASSE #1001: Pipe applied atmospheric type vacuum breakers.

ASSE #1013: Reduced pressure principle backflow preventers.

ASSE #1015: Double check valve type back pressure backflow preventers.

ASSE #1020: Vacuum breakers, anti-siphon, pressure type.

ASSE #1024: Dual check valve type backflow preventers.

5. Hydraulic Institute Standards, 14th Edition

**6. Standards and Specifications For Turf and Landscape Irrigation Systems Florida
Irrigation Society (FIS) Standards**

**7. Soil Conservation Service (SCS) Field Office Technical Guide, Section IV-A - Cropland
Codes:**

SCS Code 430-DD: Irrigation water conveyance, underground, plastic pipeline.

SCS Code 430-EE: Irrigation water conveyance. Low pressure, underground, plastic pipeline.

SCS Code 430-FF: Irrigation water conveyance, steel pipeline.

SOS Code 441-1: Irrigation system, trickle.

SCS Code 442: Irrigation system sprinkler.

SCS Code 449: Irrigation water management.

SCS Code 533: Pumping plant for water control.

SCS Code 642: Well.

PART IV: MATERIALS

A. PVC Pipe and Fittings.

1. PVC pipe should comply with one of the following standards ASTM D 1785, ASTM D 2241, AWWA C-900, or AWWA C-905. SDR-PR pipe shall have a minimum wall thickness as required by SDR-26. All pipe used with effluent water systems shall be designated for nonpotable use by either label or by the industry standard color purple.

2. All solvent-weld PVC fittings shall, at a minimum, meet the requirements of Schedule 40 as set forth in ASTM D 2466.

3. Threaded PVC pipe fittings shall meet the requirements of Schedule 40 as set forth in ASTM D 2464.

4. PVC gasketed fittings shall conform to ASTM D 3139. Gaskets shall conform to ASTM F 477.

5. PVC flexible pipe should be pressure rated as described in ASTM D 2740 with standard outside diameters compatible with PVC IPS solvent-weld fittings.

6. PVC cement should meet ASTM D 2564. PVC cleaner-type should meet ASTM F 656.

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B. Ductile Iron Pipe and Fittings.

1. Gasket fittings for iron pipe should be of materials and type compatible with the piping material being used.

C. Steel Pipe and Fittings.

1. All steel pipe shall be rated Schedule 40 or greater and be hot-dipped galvanized or black in accordance with ASTM 53.

2. Threaded fittings for steel pipe should be Schedule 40 Malleable Iron.

D. Polyethylene Pipe.

1. Flexible swing joints shall be thick-walled with a minimum pressure rating of 75 psi (517 kPa) in accordance with ASTM D 2239.

2. Low pressure polyethylene pipe for micro-irrigation systems shall conform with ASAE S-435.

3. Use fittings manufactured specifically for the type and dimensions of polyethylene pipe used.

E. Sprinklers, Spray Heads, and Emitters.

1. Select units and nozzles in accordance with the size of the area and the type of plant material being irrigated. Sprinklers must fit the area they are intended to water without excessive overspray onto anything but the lot individual landscaped surface. Intentional direct spray onto walkways, buildings, roadways, and drives is prohibited. All sprinklers used with effluent water systems shall be designated for non-potable use by either label or by the industry standard color purple.

2. Use equipment that is protected from contamination and damage by use of seals, screens, and springs where site conditions present a potential for damage.

3. Support riser-mounted sprinklers to minimize movement of the riser resulting from the action of the sprinkler.

4. Swing joints, either flexible or rigid, shall be constructed to provide a leak-free connection between the sprinkler and lateral pipeline to allow movement in any direction and to prevent equipment damage.

F. Valves.

1. Valves must have a maximum working pressure rating equal to or greater than the maximum pressure of the system, but not less than 125 psi (861 kPa). This requirement may be waived for low mainline pressure systems [30 psi (207 kPa) or less]. All valves used with effluent water systems shall be designated for nonpotable use by either label or by the industry standard color purple.

2. Only valves that are constructed of materials designed for use with the water and soil conditions of the installation shall be used. Valves that are constructed from materials that will not be deteriorated by chemicals injected into the system shall be used on all chemical injection systems.

G. Valve Boxes.

1. Valve boxes are to be constructed to withstand traffic loads common to the area in which they are installed. They should be sized to allow manual operation of the enclosed valves without excavation.

2. Each valve box should be permanently labeled to identify its contents. All valve boxes used with effluent water systems shall be designated for nonpotable use by either label or by the industry standard color purple.

H. Low Voltage Wiring.

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1. All low voltage wire which is directly buried must be labeled for direct burial wire. Wire not labeled for direct burial must be installed in watertight conduits, and be UL listed TWN or THHN type wire as described in the NEC. All wire traveling under any hardscape or roadway must installed within a pipe and sleeve.
2. The size of the electrical control wire shall be in accordance with the valve manufacturer's specifications, based on the solenoid in-rush amperage and the circuit length, considering the number of solenoids operating, on the circuit. Minimum of # 14 AWG single strand control wire shall be used on all systems, except single lot individual residential systems.
3. Connections are to be made using UL approved devices specifically designed for direct burial. All splices shall be enclosed within a valve box.

I. Irrigation Controllers.

1. All irrigation controllers shall be UL listed, conform to the provisions of the National Electric Code (NEC), and be properly grounded in accordance with manufacturer's recommendations. Equip solid state controls, with surge suppressors on the primary and secondary wiring, except single lot residential systems.
2. The controller housing or enclosure shall protect the controller from the hazards of the environment in which it is installed.
The rain switch shall be placed on a stationary structure minimum of 5-foot (1524 mm) clearance from other outdoor equipment, free and clear of any tree canopy or other overhead obstructions, and above the height of the sprinkler coverage.

J. Pumps and Wells.

1. Irrigation pump electrical control systems must conform to NEC and local building codes.
2. The pumping system shall be protected from the hazards of the environment in which it is installed.
3. Use electric motors with a nominal horsepower rating greater than the maximum horsepower requirement of the pump during normal operation. Motor shall have a service factor of at least 1.15.
4. Casings for drilled wells may be steel, reinforced plastic mortar, plastic, or fiberglass pipe. Only steel pipe casings shall be used in driven wells. Steel pipe must have a wall thickness equal to or greater than Schedule 40. See SCS code FL-642. Steel casings shall be equal to or exceed requirements of ASTM A 589.

K. Chemical Injection Equipment.

1. Chemical injection equipment must be constructed of materials capable of withstanding the potential corrosive effects of the chemicals being used. Equipment shall be used only for those chemicals for which it was intended as stated by the injection equipment manufacturer.

L. Filters and Strainers.

1. Filtration equipment and strainers constructed of materials resistant to the potential corrosive and erosive effects of the water shall be used. They shall be sized to prevent the passage of foreign material that would obstruct the sprinkler/emitter outlets in accordance with the manufacturer's recommendations.

PART V: INSTALLATION

A. Pipe Installation.

1. Pipe shall be installed at sufficient depth below ground to protect it from hazards such as vehicular traffic or routine occurrences which occur in the normal use and maintenance of a

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property. Depths of cover shall meet or exceed SCS Code 430-DD, Water Conveyance, as follows:

a. Vehicle Traffic Areas.

Pipe Size (inches)	Depth of Cover (inches)
1/2 - 2 1/2	18-24
3-5	24 - 30
6 and larger	30- 36

b. Nontraffic and Noncultivated Areas.

Pipe Size (inches)	Depth of Cover (inches)
1/2 - 1 1/4	6-12
1 1/2 - 2	12 - 18
2 1/2 - 3	18 - 24
4 and larger	24 - 36

c. Residential single lot installations only.

Pipe Size (inches)	Depth of Cover (inches)
1/2 - 1	4 - 6
1 1/4 - 1 1/2	8 - 12
2 - 2 1/2	12 - 18
3 and larger	24

* Except in areas where more than one lot is connected together, controlled, or connected through a master system than the depths in Chart B shall apply.

2. Make all pipe joints and connections according to manufacturer's recommendations. Perform all solvent-weld connections in accordance with ASTM D 2855.
3. Minimum clearances shall be maintained between irrigation lines and other utilities. In no case shall one irrigation pipe rest upon another. Comingling or mixing of different types of pipe assemblies shall be prohibited.
4. Thrust blocks must be used on all gasketed PVC systems. They must be formed against a solid, hand-excavated trench wall undamaged by mechanical equipment. They shall be constructed of concrete, and the space between the pipe and trench shall be filled to the height of the outside diameter of the pipe. Size thrustblocks in accordance with ASAE S-376.1.
5. The trench bottom must be uniform, free of debris, and of sufficient width to properly place pipe and support it over its entire length. Native excavated material may be used to backfill the pipe trench. However, the initial backfill material shall be free from rocks or stones larger than 1-inch in diameter. At the time of placement, the moisture content of the material shall be such that the required degree of compaction can be obtained with the backfill method to be used. Blocking or mounding shall not be used to bring the pipe to final grade.
6. Pipe sleeves must be used to protect pipes or wires installed under pavement or roadways. Use pipe sleeves two pipe sizes larger than the carrier pipe or twice the diameter of the wire

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bundle to be placed under the paving or roadway, and extending a minimum of 3 feet beyond the paved area or as required by the Florida Department of Transportation (FDOT). Use sleeve pipe with wall thickness at least equal to the thickness of schedule 40 or PR 160 pipe, whichever is thicker. Proper backfill and compaction procedures should be followed.

B. Control Valve Installation.

1. Valve installation shall allow enough clearance for proper operation and maintenance. Where valves are installed underground, they shall be provided with a valve box with cover extending from grade to the body of the valve. The top of the valve body should have a minimum of 6 inches (152 mm) of cover in nontraffic and noncultivated areas and 18 inches (457 mm) of cover in traffic areas. If an automatic valve is installed under each sprinkler, then the valve box may be omitted.

2. Install valve boxes so that they do not rest on the pipe, the box cover does not conflict with the valve stem or interfere with valve operation, they are flush with the ground surface and do not present a tripping hazard or interfere with routine maintenance of the landscape.

3. Install quick coupling valves on swing joints or flexible pipe with the top of the valve at ground level.

Any above-ground manually-operated valves on nonpotable water systems will be adequately identified with distinctive purple colored paint. Do not provide hose connections on irrigation systems that utilize nonpotable water supplies.

C. Sprinkler Installation.

1. On flat landscaped areas, install sprinklers plumb. In areas where they are installed on slopes, sprinklers may be tilted as required to prevent erosion. Sprinklers should be adjusted to avoid unnecessary discharge on pavements and structures. Adjust sprinklers so they do not water on roads.

2. Provide a minimum separation of 4 inches (102 mm) between sprinklers and pavement. Provide a minimum separation of 12 inches (305 mm) between sprinklers and buildings and other vertical structures. Piping must be thoroughly flushed before installation of sprinkler nozzles. Surface mounted and pop-up heads shall be installed on swing joints, flexible pipe, or polyethylene (PE) nipples. Above-ground (riser mounted) sprinklers shall be mounted on Schedule 40 PVC or steel pipe and be effectively stabilized.

D. Pump Installation.

1. Install pumps as per the manufacturer's recommendations. Set pumps plumb and secure to a firm concrete base. There should be no strain or distortion on the pipe and fittings. Pipe and fittings should be supported to avoid placing undue strain on the pump. Steel pipe should be used on pumps 5 horsepower (hp) or larger whenever practical.

2. Pumps must be installed in a manner to avoid loss of prime. Install suction line to prevent the accumulation of air pockets. All connections and reductions in suction pipe sizes should be designed to avoid causing air pockets and cavitation.

3. Pumps must be located to facilitate service and ease of removal. Appropriate fittings should be provided to allow the pump to readily be primed, serviced, and disconnected. Provide an enclosure of adequate size and strength, with proper ventilation, to protect the pump from the elements (except residential systems).

E. Low Voltage Wire Installation.

1. Install low voltage wire (30 volts or less) with a minimum depth of cover of 12 inches (305 mm). Provide a sufficient length of wire at each connection to allow for thermal

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expansion/shrinkage. As a minimum, provide a 12-inch (305 mm) diameter loop at all splices and connections. Terminations at valves will have 24 inches (610 mm) minimum free wire.

2. Install all above-ground wire runs and wire entries into buildings in electrical conduit. Provide common wires with a different color than the power wires (white shall be used for common wires). Connections are to be made using UL approved devices specifically designed for direct burial. All splices shall be enclosed within a valve box.

F. Hydraulic Control Tubing.

1. For hydraulic control systems, use a water supply that is filtered and free of deleterious materials, as defined by the hydraulic control system manufacturer. Install a backflow prevention device where the hydraulic control system is connected to potable water supplies.

2. Install tubing in trenches freely and spaced so that it will not rub against pipe, fittings, or other objects that could score the tubing, and with a minimum 12-inch (305 mm) diameter loop at all turns and connections. Provide a minimum depth of cover of 12 inches (305 mm).

3. Connect tubing with couplings and collars recommended by the tubing manufacturer. All splices shall be made in valve boxes. Prefill tubing with water, expelling entrapped air and testing for leaks prior to installation.

Install exposed tubing in a protective conduit manufactured from Schedule 40 UV protected PVC or electrical conduit.

PART VI: TESTING & INSPECTIONS

A. Purpose. All materials and installations covered by the Irrigation Code shall be inspected by the governing agency to verify compliance with the Irrigation Code.

B. Rough Inspections. Rough inspections will be performed throughout the duration of the installation. These inspections will be made by the governing agency to ensure that the installation is in compliance with the design intent, specifications, and the Irrigation Codes. Inspections will be made on the following items at the discretion of the governing agency:

1. Sprinkler Layout and Spacing: This inspection will verify that the irrigation system design is accurately installed in the field. It will also provide for alteration or modification of the system to meet field conditions. To pass this inspection, sprinkler/emitter spacing should be within ± 5 percent of the design spacing.

2. Pipe Installation Depth: All pipes in the system shall be installed to depths as previously described in this code.

Test all mainlines upstream of the zone valves as follows:

a. Fill the completely installed pipeline slowly with water to expel air. Allow the pipe to sit full of water for 24 hours to dissolve remaining trapped air.

b. Using a metering pump, elevate the water pressure to the maximum static supply pressure expected and hold there for a period of 2 hours, solvent-weld pipe connections shall have no leakage.

c. For gasketed pipe main lines add water as needed to maintain the pressure. Record the amount of water added to the system over the 2-hour period.

d. Use the following formulas to determine the maximum allowable leakage limit of gasketed pipe.

DUCTILE IRON:

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$$L = SDP/133,200$$

PVC, GASKETED JOINT:

$$L = \frac{NDP}{7400}$$

Where:

- L = allowable leakage (gph),**
- N = number of joints,**
- D = nominal diameter of pipe (inches),**
- P = average test pressure (psi), and**
- S = length of pipe (ft).**

e. When testing a system which contains metal-seated valves, an additional leakage per closed valve of 0.078 gph/inch of nominal valve size is allowed.

C. Final Inspection. When the work is complete the contractor shall request a final inspection.

1. Cross Connection Control and Backflow Prevention.

a. Public or domestic water systems: Check that an approved backflow prevention assembly is properly installed and functioning correctly. Review the location of the assembly to check that it is not creating a hazard to pedestrians or vehicular traffic.

b. Water systems other than public or domestic water systems: Check that the proper backflow prevention assemblies are provided.

c. All assemblies that can be, will be tested by a certified technician prior to being placed into service.

2. Sprinkler Coverage Testing.

a. All sprinklers must be adjusted to minimize overspray onto buildings and paved areas.

b. All sprinkler controls must be adjusted to minimize runoff of irrigated water.

c. All sprinklers must operate at their design radius of throw. Nozzle sizes and types called for in the system design must have been used.

d. Spray patterns must overlap as designed.

e. Sprinklers must be connected, as designed, to the appropriate zone.

D. Site Restoration.

1. All existing landscaping, pavement, and grade of areas affected by work must be restored to original condition or to the satisfaction of the governing authority.

Verify that the pipeline trenches have been properly compacted to the densities required by the plans and specifications.

Appendix G Vacuum Drainage System. Change to read as shown.

APPENDIX G Vacuum Drainage System. Reserved.