

**20:54:02:01. Conformance with uniform code -- Exceptions.** All plumbing materials and plumbing systems or parts of plumbing systems installed must meet or exceed the minimum provisions of the **Uniform Plumbing Code**, 2009 edition, including Appendices A, B, D, E, I, and L and the Green Plumbing and Mechanical Code Supplement with the following exceptions:

(1) Sections 102.2.1 to 103.6.3, inclusive, Table 1-1 of Chapter 1, 307.2, 308.1, 308.2, 313.12.4, 314.7, 315.2, 315.3, 318.5, 320.0, 411.9, 412.6, 606.2.2, 609.5 to 609.7.2, inclusive, 710.1, 710.9, 713.3, 713.5, 714.4, 714.5, 716.0, 721.2, 722.2 to 723.0, inclusive, 802.0, 811.5, 904.2, 1016.1.2, 1101.5.1 to 1101.10, inclusive, 1103.1, 1103.4, Chapter 5, Chapter 12, Chapter 13, Chapter 15, 1601.0(F), 1604.0(A), 1604.0(C), 1605.0(A#5), 1607.0, 1608.0, 1611.0, Table 16-1, Table 16-2, Figure 16-5, E25 to E41.4 of Appendix E, inclusive, E84 of Appendix E, Appendix F, IAPMO IS-2, IAPMO IS-4, 2.7.1 of IAPMO IS-8, IAPMO IS-12, IAPMO IS-13, IAPMO IS-15, and IAPMO SIS-2 of Appendix I, Appendix K, and Table L-6 of Appendix L. The Green Plumbing and Mechanical Code Supplement is deemed to be a non-mandatory referenced standard and is applicable only when plumbing systems or installation methods are not referenced in the 2009 edition of the Uniform Plumbing Code;

(2) The words "or repair" and "or repairs" are removed from section 101.5.1;

(3) The words "or within" are added after the word "into" and the words "except as provided for in section 103.5.5.2" are removed in section 101.5.6;

(4) The words "Voids around piping passing through concrete floors on the ground shall be appropriately sealed." are removed from section 313.1;

(5) The words "No plumbing piping shall be directly embedded in concrete or masonry." are removed from section 313.2;

(6) The word "water," is removed from the first sentence of 313.6; and the words "No water piping shall be installed in an exterior wall or unheated attic. An exterior wall includes any wall between a heated space and an unheated space. Water service piping must be installed with a minimum earth cover of 72 inches. Building sewers must be installed with a minimum earth cover of 42 inches. Building sewers on septic systems may be installed at a minimum depth of 30 inches if the length of the building sewer does not exceed 40 feet." is added to section 313.6;

(7) The words ", applicable standards referenced in Table 14-1 and Chapter 15, "Firestop Protection"" are removed from section 313.7;

(8) The words "Exception: See Section 1211.3.4" are removed from section 313.9;

(9) The words "or wrapped" are added after the word "bored" in section 313.10.1;

(10) The words "metal" and "securely fastened to the adjoining structure" are removed from section 313.12.3;

(11) The words "Any flux shall be of a water soluble type conforming to ASTM B813 or to NSF 61" are added to section 316.1.3;

(12) The words "7 Piping may be supported at intervals shown in the above table or as per manufacturer's instructions" is added to the bottom of Table 3-2;

(13) The fraction "one-tenth" is changed to "one-quarter" in section 319.1 and "(0.10 (0.7kPa)" are removed from section 319.1;

(14) The word "shall" is changed to "may" in section 402.4;

(15) The words "tubular PVC, or tubular ABS" are added after "(0.8mm)" in section 404.3;

(16) The words ", except for guest rooms in motels, hotels, dormitories, boarding houses, and similar occupancies, which may be round bowls" are added after the words "elongated type" and the words "water closets shall be of a size" are changed to "water closets may be of a size" in section 408.1;

- (17) The words "Exception: Closed front seats shall be permitted in hotel and motel guest rooms, dormitories, boarding houses, and similar occupancies." are added to section 408.2.2;
- (18) The words "that obstruct or retard the flow" are added after the word "flanges" in the last sentence of section 408.3;
- (19) The words "The top of the closet flange shall be installed above the finished floor not to exceed three-eighths inch thick" are added to section 408.4.3;
- (20) The words "and in all mechanical rooms or the lowest level of a structure. The floor shall slope toward the floor drains" are added to section 411.2.3;
- (21) The words "Service sinks are required in all occupancies listed in Table 4-1 with the exception of dwellings." are added to Footnote 9 of Table 4-1;
- (22) The words "A dual check backflow preventer which conforms to ASSE 1024 shall be installed on the building side immediately downstream of the water meter where the water service enters the building" are added to section 602.1;
- (23) The words "Copies of testable backflow preventer test reports for the initial installation shall be sent to the water supplier. Copies of annual testable backflow preventer test reports shall be sent to the water supplier. A testable device is a device with atmospheric vents, test ports, or both" are added to section 603.3.3;
- (24) The words "Water-to-water heat exchangers that return the water back to the public system of waterworks may not be allowed on a public water system unless approved by the Authority Having Jurisdiction" are added to section 603.4.4.1 and "Section 506.4.2" is changed to "L.3.0 to L.3.3, inclusive" in section 603.4.4.1;
- (25) The words "Backflow preventers with atmospheric vents shall not be installed in pits, vaults, or similar potentially submerged locations." are added to section 603.4.14;

- (26) The words "Combination domestic water systems and fire sprinkler systems shall be designed by a registered professional engineer or a fire system manufacturer as an engineered design and installers of combination domestic water systems and fire sprinkler systems shall be certified by the fire sprinkler system manufacturer." are added to section 603.4.16.5;
- (27) The words "Unless they are installed above the known groundwater table, they are installed at least 10 feet away from any sewer line or any other source of contamination, and they are installed only on seasonal-use facilities" are added to section 603.4.19;
- (28) The words "or underground outside of a building" are removed from section 604.2;
- (29) The words "For Building Supply or cold-water applications." are removed after Table 6-4;
- (30) The words "This does not apply to electric water heaters" are added to section 604.11.2;
- (31) The word "discharge" is changed to "inlet" in the first sentence of section 605.2;
- (32) The words "Individual shutoff valves shall be installed on each plumbing fixture and each exterior hose bib. Exception: In single family dwellings, individual valves are not required on tub valves, shower valves, and exterior hose bibs" are added to section 605.5;
- (33) The words "except that underground joints may not be soldered" are added to section 606.2.1;
- (34) The words "the outside of the building with the end of the pipe not more than two (2) feet (610mm) nor less than six (6) inches (152mm) above the ground or the flood level of the area receiving the discharge and pointing downward" are changed to "within not more than 6 inches nor less than 2 inches above the floor" and "other approved points of disposal shall include mop sinks, floor sinks and standpipe receptors" is added to section 608.5;

(35) The words "Water service yard piping shall be not less than twelve (12) inches (305mm) below the average local frost depth. The cover shall be not less than twelve (12) inches (305mm) below finish grade." are removed from section 609.1;

(36) The words "Potable water service piping shall not be located in, under, or above cesspools, septic tanks, septic tank drainage fields, or drainage pits. A separation of 25 feet shall be maintained from such systems, except for livestock confinement facilities which may be 3 feet" are added to section 609.2.2;

(37) The words "Except for plastic piping" are removed from section 609.4;

(38) The words "Dwelling units are exempt from this requirement" are added to section 609.10;

(39) The words "The minimum size water service allowed is 1 inch except to travel trailer or mobile home sites which shall be not less than 3/4 inch" are added to section 610.1;

(40) The words "Not more than 1 fixture may be served by a 1/2 inch outlet on a manifold system" are added to section 610.4;

(41) The words "Plastic pipe and fittings installed underground outside of buildings may be SDR 35 ASTM 3034 or heavier" are added to section 701.1 and the words "Chapter 15 Firestop Protection" are removed from section 701.1.2;

(42) The words "commercial dishwashing machines" are deleted in section 704.3 and the words "commercial dishwashing machines shall be provided with indirect wastes" are added to section 704.3;

(43) The words "not to exceed one-third (1/3) of the total permitted length of any vent may be installed in a horizontal position" are removed from "Note" under Table 7-5;

(44) The words "Exception: 1/4 bends may be used on individual fixture drains for horizontal to vertical, horizontal to horizontal, and vertical to horizontal changes in direction." are added to section 706.1;

(45) The words "when the barrel of the fitting is at least two (2) pipe sizes larger than the largest inlet, (pipe sizes recognized for this purpose are 2", 2½", 3", 3½", 4", 4½", 5", 6", etc) (50, 65, 80, 90, 100, 115, 125, 150 mm, etc)" are removed from section 706.2; "Double or single sanitary tees with side inlet may be used if the side inlet flow line is above the flow line of the largest horizontal inlet" are added to section 706.2; and, "When a double sanitary tee is serving back to back water closets that are less than 30 inches from the soil stack, the stack shall be 4 inches" are added to section 706.2;

(46) The words "(5) Where the piping is concealed, a fixture trap or a fixture with integral trap, readily removable without disturbing concealed roughing work, shall be accepted as a cleanout equivalent" are added to section 707.4;

(47) The words "building sewer" are added after the word "under-floor" in section 707.9;

(48) The words ", when first approved by the Authority Having Jurisdiction" are removed from section 708.0;

(49) The words "and gate valve" are removed from section 710.3.2;

(50) The words "and gate or ball valve" are removed from section 710.4;

(51) The words "Where the Administrative Authority, due to practical difficulties or hardships, finds that a water or air test cannot be performed, a smoke or peppermint test shall be substituted in lieu thereof. A smoke test shall be made by introducing into the entire system a pungent, thick smoke proceeded by one or more smoke machines. When the smoke appears at stack openings on the roof, they shall be closed and at a pressure equivalent to a one-inch water column shall be developed and maintained for the period of the inspection. A peppermint test shall be conducted by the introduction of two ounces of oil of peppermint into the roof terminal of every line or stack to be tested. The oil of peppermint shall be followed at once by 10 quarts of hot water whereupon all roof vent terminals shall be sealed. A positive test which reveals leakage shall be the detection of the odor of peppermint at any trap or other point on the system. Oil of peppermint

of persons whose person or clothes have come in contact with oil of peppermint shall be excluded from the test area" are added to section 712.0;

(52) The words "except that plastic pipe shall not be tested with air" and "After the plumbing fixtures have been set and their traps filled with water, they shall be submitted to a final test" are removed from section 712.1;

(53) The words "Exception: Single family dwellings and buildings or structures accessory thereto, existing and connected to an approved private sewage disposal system prior to the time of connecting the premises to public sewer may, when no hazard, nuisance, or insanitary condition is evidenced and written permission has been obtained from the Authority Having Jurisdiction, remain connected to such properly maintained private sewage disposal system when there is insufficient grade or fall to permit drainage to the sewer by gravity" are removed from section 713.6;

(54) The words "Approved manholes shall be permitted to be installed in lieu of cleanouts, when first approved by the Authority Having Jurisdiction. The maximum distance between manholes shall not exceed three-hundred (300) feet (91.4m). The inlet and outlet connections shall be made by the use of a flexible compression joint not less than twelve (12) inches (305mm) and not exceeding three (3) feet (914mm) from the manhole. No flexible compression joints shall be embedded in the manhole base." are changed to "For underground piping over seven (7) inches, manholes shall be provided and located at every change of size, alignment, grade, or elevation and at intervals of not more than five hundred (500) feet. When total length is less than one hundred fifty (150) feet, cleanouts may be provided at one hundred (100) foot intervals" in section 719.6;

(55) "five (5) feet (1524mm)" is changed to "15 feet" in section 801.3;

(56) The words "Drip pans shall be installed under storage-type water heaters to prevent tank leakage from causing property damage. Exceptions:

1. The lowest level of buildings, provided that the floor is concrete or other material that will not be damaged or deteriorated by water leakage from the tank;
2. Crawl spaces;
3. Spaces having floor drainage that will collect leakage from the tank; and
4. Locations where tank leakage will not damage the building or its contents.

Drip pans shall be watertight and constructed of corrosive-resistant materials. Metallic pans shall be 24 gauge minimum. Non-metallic pans shall be .0625 inches minimum thickness. Pans shall be not less than 1-1/2 inches deep and shall be of sufficient size to hold the heater without interfering with drain valves, burners, controls, and any required access. High impact plastic pans shall be permitted under gas-fired water heaters where the heater is listed for zero clearance for combustible floors and the application is recommended by the pan manufacturer. Drip pans shall have drain outlets not less than 1 inch size, with indirect drain pipes extending to an approved point of discharge" are added to section 801.6;

(57) The words "No domestic dishwashing machine shall be directly connected to a drainage system or food waste disposer without the use of an approved dishwasher airgap fitting on the discharge side of the dishwashing machine. Listed airgaps shall be installed with the flood level (FL) marking at or above the flood level of the sink or drainboard, whichever is higher" are changed to "The discharge from a residential kitchen sink and dishwasher may discharge through a single 1½ inch trap. The discharge line from the dishwasher shall be not less than 1/2 inch nominal size and shall either be looped up and securely fastened to the underside of the counter or be connected to a deck-mounted dishwasher air gap fitting. The discharge shall then be connected to a wye fitting between the sink waste outlet and the trap inlet or to the disposal" in section 807.4;

(58) The words ", and Chapter 15 "Firestop Protection"" are removed from section 903.1.2;

(59) The words "a sanitary tee is acceptable in lieu of an approved drainage fitting" is added to section 905.3;

(60) The words "Where frost or snow closure is likely to occur in locations having minimum design temperature below 0°F (-17.8°C), vent terminals shall be a minimum of two (2) inches (51mm) in diameter but in no event smaller than the required vent pipe. The change in diameter shall be made inside the building at least one (1) foot (305mm) below the roof in an insulated space and terminate not less than ten (10) inches (254mm) above the roof, or as required by the Authority Having Jurisdiction" are changed to "Each vent extension through a roof shall be at least 3 inches in diameter except kitchen sink vents in single-family dwellings, which shall be at least 2 inches in diameter. The change in diameter shall be made inside the building at least 1 foot below the roof with an approved fitting" in section 906.7;

(61) The words "Horizontal Wet Venting for Bathroom Groups. 908.2.1 Where Permitted. Water closets, bathtubs, showers, and floor drains within one (1) or two (2) bathroom groups located on the same floor level and for private use shall be permitted to be vented by a wet vent. The wet vent shall be considered the vent for the fixtures and shall extend from the connection of the dry vent along the direction of the flow in the drain pipe to the most downstream fixture drain or trap arm connection to the horizontal branch drain. Each wet-vented fixture drain or trap arm shall connect independently to the wet-vented horizontal branch drain. Each individual fixture drain or trap arm shall connect horizontally to the wet-vented horizontal branch drain or shall be provided with a dry vent. The trap to vent distance shall be in accordance with Table 10-1. Only the fixtures within the bathroom groups shall connect to the wet-vented horizontal branch drain. The water closet fixture drain or trap arm connection to the wet vent shall be downstream of any fixture drain or trap arm connections. Any additional fixtures shall discharge downstream of the wet vent system and be conventionally vented" are changed to "Single Bathroom or Single Toilet Room. One (1) or two (2) vented lavatories shall be permitted to serve as the wet vent for one (1)

water closet and/or one (1) bathtub or shower stall, or one (1) water closet and/or one (1) bathtub/shower combination if all of the following conditions are met:

(1) The wet vent, and the dry vent extending from the wet vent, is of two (2) inch minimum pipe size;

(2) The wet vent pipe opening is not below the weir of the trap that it serves. Vent sizing, grades, and connections shall comply with sections 904.0 and 905.0;

(3) The horizontal branch drain serving both the lavatory and the bathtub or shower stall is of two (2) inch minimum pipe size;

(4) The length of the trap arm from the bathtub or shower stall complies with the limits in Table 10-1;

(5) The distance from the outlet of the water closet to the connection of the wet vent complies with the limits in Table 10-1;

(6) The horizontal branch drain serving the lavatory and the bathtub or shower stall connects to the horizontal water closet branch above its centerline. If the bathroom or toilet room is the top-most load on a stack, the horizontal branch serving the lavatory and the bathtub or shower stall may connect to the stack below the water closet branch.

No fixture other than those listed in this section may discharge through a single bathroom or single toilet room wet-vented system" in section 908.2;

(62) The words "Vent Connection. The dry vent connection to the wet vent shall be an individual vent or common vent for the lavatory, urinal, bidet, shower, or bathtub. Only one (1) wet-vented fixture drain or trap arm shall discharge upstream of the dry-vented fixture drain connection" are changed to "Double Bathtubs, Bathtub/Shower Combinations, Shower Stalls, and Lavatories. Two (2) lavatories, each rated at 1.0 drainage fixture unit (DFU), and two (2) bathtubs, bathtub/shower combinations, or shower stalls, installed in adjacent bathrooms may drain to a horizontal drain branch that is of two (2) inch minimum pipe size, with a common vent for the

lavatories and no individual vents for the bathtubs, bathtub-shower combinations, or shower stalls, provided that the wet vent from the lavatories and their dry vent is of two (2) inch minimum pipe size and the length of all trap arms complies with the limits in Table 10-1" in section 908.2.2;

(63) The words "Size. The wet vent shall be sized based on the fixture unit discharge into the wet vent. The wet vent shall be not less than two (2) inches in diameter for four (4) dfu or less, and not less than three (3) inches in diameter for five (5) dfu or more. The dry vent shall be sized in accordance with Tables 7-3 and 7-5 based on the total fixture units discharging into the wet vent" are changed to "Vent Washdown. Lavatories or sinks other than kitchen sinks or food waste grinders may wash down a single vent if not more than two (2) dfu are drained to a two (2) inch vent and the fixture trap arm lengths comply with Table 10-1. All fixtures shall be on the same floor level" in section 908.2.3;

(64) The words "Alternate island sink installations require a minimum of a 3-inch diameter drain undiminished in size which shall rise up through the sink cabinet and capped off as high as possible. The vent shall connect no further than 15 feet from the vertical section of the drain and shall be a minimum of 1½ inch in diameter. A 3x3x1½-inch sanitary tee is required for connection to the trap" are added to section 909.0;

(65) The words "Exception: In single family dwellings the maximum length for a floor drain connected to a uniformly sized building drain vented on both the upstream and downstream side of the connection to the floor drain is 15 feet. The minimum trap seal shall be 4 inches." are added to section 910.1;

(66) The words "Exception: Up to 3 lavatories may be permitted on a 2 inch trap arm" are added to section 1001.1;

(67) The words "17 B&S Gauge" is changed to "20 B&S Gauge" and "(0.045 inch) (1.1mm)" are deleted from section 1003.1;

(78) The words “or un-purple in color. Un-purple primer is a primer that has a special purple dye that when applied to pipe and fittings appears clear but the purple color can be revealed by a UV flashlight” are added to Installation Standard 9, section 2.1.4.1.

**Source:** SL 1975, ch 16, § 1; 12 SDR 91, effective December 2, 1985; 12 SDR 151, 12 SDR 155, effective July 1, 1986; 14 SDR 29, effective September 3, 1987; 15 SDR 136, effective March 15, 1989; 16 SDR 88, effective November 12, 1989; 17 SDR 75, effective December 3, 1990; 19 SDR 36, effective September 17, 1992; 20 SDR 29, effective September 1, 1993; 21 SDR 40, effective September 4, 1994; 23 SDR 83, effective November 28, 1996; 24 SDR 19, effective August 21, 1997; 26 SDR 33, effective September 12, 1999; 29 SDR 52, effective October 20, 2002; 30 SDR 99, effective December 22, 2003; 31 SDR 35, effective September 23, 2004; 35 SDR 67, effective October 1, 2008; 37 SDR 48, effective September 21, 2010; 38 SDR 40, effective September 20, 2011.

**General Authority:** SDCL 36-25-15.

**Law Implemented:** SDCL 36-25-15.

**Reference:** **Uniform Plumbing Code**, 2009 edition, pages numbered numerically, International Association of Plumbing and Mechanical Officials. Copies may be obtained from the International Association of Plumbing and Mechanical Officials, 5001 East Philadelphia Street, Ontario, CA 91761. Cost \$120.