ONSITE WASTEWATER TREATMENT SYSTEM (OWTS)
POLICY IMPLEMENTATION REFERENCE

APPENDIX K
2007 CALIFORNIA PLUMBING CODE
(PART 5, TITLE 24, CALIFORNIA CODE OF REGULATIONS)

PRIVATE SEWAGE DISPOSAL SYSTEMS

K 1 Private Sewage Disposal – General.

(A) Where permitted by Section 713.0, the building sewer may be connected to a private sewage disposal system complying with the provisions of this appendix. The type of system shall be determined on the basis of location, soil porosity, and groundwater level, and shall be designed to receive all sewage from the property. The system, except as otherwise approved, shall consist of a septic tank with effluent discharging into a subsurface disposal field, into one (1) or more seepage pits, or into a combination of subsurface disposal field and seepage pits. The Authority Having Jurisdiction may grant exceptions to the provisions of this appendix for permitted structures that have been destroyed due to fire or natural disaster and that cannot be reconstructed in compliance with these provisions provided that such exceptions are the minimum necessary.

(B) Where the quantity or quality of the sewage is such that the above system cannot be expected to function satisfactorily for commercial, agricultural, and industrial plumbing systems; for installations where appreciable amounts of industrial or indigestible wastes are produced; for occupancies producing abnormal quantities of sewage or liquid waste; or when grease interceptors are required by other parts of this code, the method of sewage treatment and disposal shall be first approved by the Authority Having Jurisdiction. Special sewage disposal systems for minor, limited, or temporary uses shall be first approved by the Authority Having Jurisdiction.

(C) Disposal systems shall be designed to utilize the most porous or absorptive portions of the soil formation. Where the groundwater level extends to within twelve (12) feet (3658 mm) or less of the ground surface or where the upper soil is porous and the underlying stratum is rock or impervious soil, a septic tank and disposal field system shall be installed.

(D) Disposal systems shall be located outside of flood hazard areas.

> **Exception:** Where suitable sites outside of flood hazard areas are not available, disposal systems may be located in flood hazard areas on sites where the effects of inundation under conditions of the design flood are minimized.

(E) All private sewage disposal systems shall be so designed that additional seepage pits or subsurface drain fields, equivalent to at least one hundred (100) percent of the required original system, may be installed if the original system cannot absorb all the sewage. No division of the lot or erection of structures on the lot shall be made if such division or structure impairs the usefulness of the one hundred (100) percent expansion area.

(F) No property shall be improved in excess of its capacity to properly absorb sewage effluent by the means provided in this code.

Exception: The Authority Having Jurisdiction may, at its discretion, approve an alternate system.

(G) No private sewage disposal system, or part thereof, shall be located in any lot other than the lot that is the site of the building or structure served by such private sewage disposal system, nor shall any private sewage disposal system or part thereof be located at any point having less than the minimum distances indicated in **Table K-1**.

TABLE K-1
Location of Sewage Disposal System

Minimum Horizontal Distance In Clear Required From:	Building Sewer		Septic Tank		Disposal Field		Seepage Pit or Cesspool	
Buildings or structures[1]	2 ft	(610 mm)	5 ft	(1,524 mm)	8 ft	(2,438 mm)	8 ft	(2,438 mm)
Property line adjoining private property	Clear[2]		5 ft	(1,524 mm)	5 ft	(1,524 mm)	8 ft	(2,438 mm)
Water supply wells	50 ft[3]	(15,240 mm)	50 ft	(15,240 mm)	100 ft	(30.5 m)	150 ft	(45,720 mm)
Streams and other bodies of water	50 ft	(15,240 mm)	50 ft	(15,240 mm)	100 ft[7]	(30,480 mm)	150 ft[7]	(45,720 mm)
Trees	-		10 ft	(3,048 mm)	-		10 ft	(3,048 mm)
Seepage pits or cesspools	-		5 ft	(1,524 mm)	5 ft	(1,524 mm)	12 ft	(3,658 mm)
Disposal field	-		5 ft	(1,524 mm)	4 ft[4]	(1,219 mm)	5 ft	(1,524 mm)
On-site domestic water service line	1 ft[5]	(305 mm)	5 ft	(1,524 mm)	5 ft	(1,524 mm)	5 ft	(1,524 mm)
Distribution box	-		-		5 ft	(1,524 mm)	5 ft	(1,524 mm)
Pressure public water main	10 ft[6]	(3,048 mm)	10 ft	(3,048 mm)	10 ft	(3,048 mm)	10 ft	(3,048 mm)

Note:
When disposal fields and/or seepage pits are installed in sloping ground, the minimum horizontal distance between any part of the leaching system and ground surface shall be fifteen (15) feet (4,572 mm).

1 Including porches and steps, whether covered or uncovered, breezeways, roofed porte cocheres, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances.

2 See also Section 313.3 of the Uniform Plumbing Code.

3 All drainage piping shall clear domestic water supply wells by at least fifty (50) feet (15,240 mm). This distance may be reduced to not less than twenty-five (25) feet (7,620 mm) when the drainage piping is constructed of materials approved for use within a building.

4 Plus two (2) feet (610 mm) for each additional one (1) foot (305 mm) of depth in excess of one (1) foot (305 mm) below the bottom of the drain line. (See also Section K 6.)

5 See Section 720.0 of the Uniform Plumbing Code.

6 For parallel construction – For crossings, approval by the Health Department shall be required.

7 These minimum clear horizontal distances shall also apply between disposal fields, seepage pits, and the mean high tide line.

Nothing contained in this code shall be construed to prohibit the use of all or part of an abutting lot to provide additional space for a private sewage disposal system or part thereof when proper cause, transfer of ownership, or change of boundary not in violation of other requirements has been first established to the satisfaction of the Authority Having Jurisdiction. The instrument recording such action shall constitute an agreement with the Authority Having Jurisdiction, which shall clearly state and show that the areas so joined or used shall be maintained as a unit during

the time they are so used. Such agreement shall be recorded in the office of the County Recorder as part of the conditions of ownership of said properties and shall be binding on all heirs, successors, and assigns to such properties. A copy of the instrument recording such proceedings shall be filed with the Authority Having Jurisdiction.

(H) When there is insufficient lot area or improper soil conditions for adequate sewage disposal for the building or land use proposed, and the Authority Having Jurisdiction so finds, no building permit shall be issued and no private sewage disposal shall be permitted. Where space or soil conditions are critical, no building permit shall be issued until engineering data and test reports satisfactory to the Authority Having Jurisdiction have been submitted and approved.

(I) Nothing contained in this appendix shall be construed to prevent the Authority Having Jurisdiction from requiring compliance with additional requirements than those contained herein, where such additional requirements are essential to maintain a safe and sanitary condition.

(J) Alternate systems may be used only by special permission of the Authority Having Jurisdiction after being satisfied of their adequacy. This authorization may be based on extensive field and test data from conditions similar to those at the proposed site, or may require such additional data as may be necessary to provide assurance that the alternate system will produce continuous and long-range results at the proposed site, at least equivalent to systems which are specifically authorized.

If demonstration systems are to be considered for installation, conditions for installation, maintenance, and monitoring at each such sites shall first be established by the Authority Having Jurisdiction.

Aerobic Systems. Approved aerobic systems may be substituted for conventional septic tanks provided the Authority Having Jurisdiction is satisfied that such systems will produce results at least equivalent to septic tanks, whether their aeration systems are operating or not.

K 2 Capacity of Septic Tanks.

The liquid capacity of all septic tanks shall conform to **Tables K-2** and **K-3** as determined by the number of bedrooms or apartment units in dwelling occupancies and the estimated waste/sewage design flow rate or the number of plumbing fixture units as determined from **Table 7-3** of this Code, whichever is greater in other building occupancies. The capacity of any one septic tank and its drainage system shall be limited by the soil structure classification, as specified in **Table K-4.**

TABLE K-2
Capacity of Septic Tanks*

Single-Family Dwellings Number of Bedrooms	Multiple Dwelling Units or Apartments One Bedroom Each	Other Uses: Maximum Fixture Units Served per Table 7-3	Minimum Septic Tank Capacity in	
			Gallons	(Liters)
1 or 2		15	750	(2,838)
3		20	1,000	(3,785)
4	2 units	25	1,200	(4,542)
5 or 6	3	33	1,500	(5,678)
	4	45	2,000	(7,570)
	5	55	2,250	(8,516)

Single-Family Dwellings Number of Bedrooms	Multiple Dwelling Units or Apartments One Bedroom Each	Other Uses: Maximum Fixture Units Served per Table 7-3	Minimum Septic Tank Capacity in	
			Gallons	(Liters)
	6	60	2,500	(9,463)
	7	70	2,750	(10,409)
	8	80	3,000	(11,355)
	9	90	3,250	(12,301)
	10	100	3,500	(13,248)

*Note:
Extra bedroom: 150 gallons (568 liters) each.
Extra dwelling units over 10: 250 gallons (946 liters) each.
Extra fixture units over 100: 25 gallons (96 liters) per fixture unit.
Septic tank sizes in this table include sludge storage capacity and the connection of domestic food waste disposal units without further volume increase.

TABLE K-3
Estimated Waste/Sewage Flow Rates

Because of the many variables encountered, it is not possible to set absolute values for waste/sewage flow rates for all situations. The designer should evaluate each situation and, if figures in this table need modification, they should be made with the concurrence of the Authority Having Jurisdiction.

Type of Occupancy	Gallons (liters) Per Day
(1) Airports	15 (56.8) per employee
	5 (18.9) per passenger
(2) Auto washers	Check with equipment manufacturer
(3) Bowling alleys (snack bar only)	75 (283.9) per lane
(4) Camps:	
Campground with central comfort station	35 (132.5) per person
Campground with flush toilets, no showers	25 (94.6) per person
Day camps (no meal served)	15 (56.8) per person
Summer and seasonal	50 (189.3) per person
(5) Churches (Sanctuary)	5 (18.9) per seat
With kitchen waste	7 (26.5) per seat
(6) Dance halls	5 (18.9) per person
(7) Factories	
No showers	25 (94.6) per employee
With showers	35 (132.5) per employee
Cafeteria, add	5 (18.9) per employee
(8) Hospitals	250 (946.3) per bed
Kitchen waste only	25 (94.6) per bed
Laundry waste only	40 (151.4) per bed
(9) Hotels (no kitchen waste)	60 (227.1) per bed (2 person)
(10) Institutions (Resident)	75 (283.9) per person
Nursing home	125 (473.1) per person
Rest home	125 (473.1) per person
(11) Laundries, self-service	

Type of Occupancy	Gallons (liters) Per Day
(minimum 10 hours per day)	50 (189.3) per wash cycle
Commercial	Per manufacturer's specifications
(12) Motel	50 (189.3) per bed space
With kitchen	60 (227.1) per bed space
(13) Offices	20 (75.7) per employee
(14) Parks, mobile homes	250 (946.3) per space
Picnic parks (toilets only)	20 (75.7) per parking space
Recreational vehicles –	
Without water hook-up	75 (283.9) per space
With water and sewer hook-up	100 (378.5) per space
(15) Restaurants – cafeterias	20 (75.7) per employee
Toilet	7 (26.5) per customer
Kitchen waste	6 (22.7) per meal
Add for garbage disposal	1 (3.8) per meal
Add for cocktail lounge	2 (7.6) per customer
Kitchen waste – disposable service	2 (7.6) per meal
(16) School – Staff and office	20 (75.7) per person
Elementary students	15 (56.8) per person
Intermediate and high	20 (75.7) per student
With gym and showers, add	5 (18.9) per student
With cafeteria, add	3 (11.4) per student
Boarding, total waste	100 (378.5) per person
(17) Service station, toilets	1000 (3785) for 1st bay
	500 (1892.5) for each additional bay
(18) Stores	20 (75.7) per employee
Public restrooms, add	1 per 10 sq.ft. (4.1/m^2) of floor space
(19) Swimming pools, public	10 (37.9) per person
(20) Theaters, auditoriums	5 (18.9) per seat
Drive-in	10 (37.9) per space

(a) **Recommended Design Criteria.** Sewage disposal systems sized using the estimated waste/sewage flow rates should be calculated as follows:

(1) Waste/sewage flow, up to 1,500 gallons/day (5,677.5 L/day)
Flow x 1.5 = septic tank size

(2) Waste/sewage flow, over 1,500 gallons/day (5,677.5 L/day)
Flow x 0.75 + 1,125 = septic tank size

(3) Secondary system shall be sized for total flow per 24 hours.

(b) Also see Section K 2 of this appendix.

FROM 2007 CALIFORNIA PLUMBING CODE
CHAPTER 7 SANITARY DRAINAGE

TABLE 7-3
Drainage Fixture Unit Values (DFU)

Inch	1-1/4	1-1/2	2	2-1/2	3
mm	32	40	50	65	80

Plumbing Appliance, Appurtenance, or Fixture	Min. Size Trap and Trap Arm[7]	Private	Public	Assembly[8]
Bathtub or Combination Bath/Shower	1-1/2"	2.0	2.0	
Bidet	1-1/4"	1.0		
Bidet	1-1/2"	2.0		
Clothes Washer, domestic, standpipe[5]	2"	3.0	3.0	3.0
Dental Unit, cuspidor	1-1/4"		1.0	1.0
Dishwasher, domestic, with independent drain	1-1/2"[2]	2.0	2.0	2.0
Drinking Fountain or Watercooler (per head)	1-1/4"	0.5	0.5	1.0
Food-Waste-Grinder, commercial	2"		3.0	3.0
Floor Drain, emergency	2"		0.0	0.0
Floor Drain (for additional sizes see Section 702)	2"	2.0	2.0	2.0
Shower, single-head trap	2"	2.0	2.0	2.0
Multi-head, each additional	2"	1.0	1.0	1.0
Lavatory, single	1-1/4"	1.0	1.0	1.0
Lavatory, in sets of two or three	1-1/2"	2.0	2.0	2.0
Washfountain	1-1/2"		2.0	2.0
Washfountain	2"		3.0	3.0
Mobile Home, trap[9]	3"	12.0		
Receptor, indirect waste[1,2]	1-1/2"		See footnote[1,3]	
Receptor, indirect waste[1,4]	2"		See footnote[1,4]	
Receptor, indirect waste[1]	3"		See footnote[1]	
Sinks				
Bar	1-1/2"	1.0		
Bar	1-1/2"[2]		2.0	2.0
Clinical	3"		6.0	6.0
Commercial with food waste	1-1/2"[2]		3.0	3.0
Special Purpose	1-1/2"	2.0	3.0	3.0
Special Purpose	2"	3.0	4.0	4.0
Special Purpose	3"		6.0	6.0
Kitchen, domestic (with or without food-waste grinder and/or dishwasher)	1-1/2"[2]	2.0	2.0	
Laundry (with or without discharge from a clothes washer)	1-1/2"	2.0	2.0	2.0
Service or Mop Basin	2"		3.0	3.0
Service or Mop Basin	3"		3.0	3.0
Service, flushing rim	3"		6.0	6.0
Wash, each set of faucets			2.0	2.0
Urinal, integral trap 1.0 GPF[2]	2"	2.0	2.0	5.0
Urinal, integral trap greater than 1.0 GPF	2"	2.0	2.0	6.0
Urinal, exposed trap	1-1/2"[2]	2.0	2.0	5.0
Water Closet, 1.6 GPF Gravity Tank[6]	3"	3.0	4.0	6.0
Water Closet, 1.6 GPF Flushometer Tank[6]	3"	3.0	4.0	6.0

Plumbing Appliance, Appurtenance, or Fixture	Min. Size Trap and Trap Arm[7]	Private	Public	Assembly[8]
Water Closet, 1.6 GPF Flushometer Valve[6]	3"	3.0	4.0	6.0
Water Closet, greater than 1.6 GPF Gravity Tank[6]	3"	4.0	6.0	8.0
Water Closet, greater than 1.6 GPF Flushometer Valve[6]	3"	4.0	6.0	8.0

Notes:
[1] Indirect waste receptors shall be sized based on the total drainage capacity of the fixtures that drain therein to, in accordance with Table 7-4.
[2] Provide a 2" (51 mm) minimum drain.
[3] For refrigerators, coffee urns, water stations, and similar low demands.
[4] For commercial sinks, dishwashers, and similar moderate or heavy demands.
[5] Buildings having a clothes-washing area with clothes washers in a battery of three (3) or more clothes washers shall be rated at six (6) fixture units each for purposes of sizing common horizontal and vertical drainage piping.
[6] Water closets shall be computed as six (6) fixture units when determining septic tank sizes based on Appendix K of this code.
[7] Trap sizes shall not be increased to the point where the fixture discharge may be inadequate to maintain their self-scouring properties.
[8] Assembly [Public Use (See Table 4-1)].
[9] For fixture unit values related to manufactured housing (mobilehomes) in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2, Article 5, Section 1268. For fixture unit values related to Special Occupancy Parks in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2.2, Article 5, Section 2268.

Section 702.0 Fixture Unit Equivalents

The unit equivalent of plumbing fixtures shown in **Table 7-3** shall be based on the size of the trap required, and the unit equivalent of fixtures and devices not shown in Table 7-3 shall be based on the rated discharge capacity in gpm (gallons per minute) (liters per second) in accordance with **Table 7-4**.

Maximum trap loadings for sizes up to four (4) inches (102 mm) are as follows:

1-1/4 in. (32 mm) — 1 unit
1-1/2 in. (40 mm) — 3 units
2 in. (50 mm) — 4 units
3 in. (80 mm) — 6 units
4 in. (100 mm) — 8 units
Exception: On self-service laundries.

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TABLE 7-4
Discharge Capacity in Gallons per Minute (Liters per Second)
For Intermittent Flow Only

GPM	(L/sec)		
Up to 7-1/2	(Up to 0.47)	Equals	1 unit
8 to 15	(0.50 to 0.95)	Equals	2 units
16 to 30	(1.00 to 1.89)	Equals	4 units
31 to 50	(1.95 to 3.15)	Equals	6 units

K 3 Area of Disposal Fields and Seepage Pits.

The minimum effective absorption area in disposal fields in square feet (m2), and in seepage pits in square feet (m2) of sidewall, shall be predicated on the required septic tank capacity in gallons (liters) and/or estimated waste. Sewage flow rate, whichever is greater, and shall conform to **Table K-4** as determined for the type of soil found in the excavation, and shall be as follows:

(1) When disposal fields are installed, a minimum of one hundred and fifty (150) square feet (14 m^2) of trench bottom shall be provided for each system exclusive of any hard pan, rock, clay, or other impervious formations. Sidewall area in excess of the required twelve (12) inches (305 mm) and not to exceed thirty-six (36) inches (914 mm) below the leach line may be added to the trench bottom area when computing absorption areas.

(2) Where leaching beds are permitted in lieu of trenches, the area of each such bed shall be at least fifty (50) percent greater than the tabular requirements for trenches. Perimeter sidewall area in excess of the required twelve (12) inches (305 mm) and not to exceed thirty-six (36) inches (914 mm) below the leach line may be added to the trench bottom area when computing absorption areas.

(3) No excavation for a leach line or leach bed shall extend within five (5) feet (1,524 mm) of the water table nor to a depth where sewage may contaminate the underground water stratum that is usable for domestic purposes.

Exception: In areas where the records or data indicate that the groundwaters are grossly degraded, the five (5) foot (1,524 mm) separation requirement may be reduced by the Authority Having Jurisdiction. The applicant shall supply evidence of groundwater depth to the satisfaction of the Authority Having Jurisdiction.

(4) The minimum effective absorption area in any seepage pit shall be calculated as the excavated sidewall area below the inlet exclusive of any hardpan, rock, clay, or other impervious formations. The minimum required area of porous formation shall be provided in one or more seepage pits. No excavation shall extend within ten (10) feet (3,048 mm) neither of the water table nor to a depth where sewage may contaminate underground water stratum that is usable for domestic purposes.

Exception: In areas where the records or data indicate that the groundwaters are grossly degraded, the ten (10) foot (3,048 mm) separation requirement may be reduced by the Authority Having Jurisdiction.

The applicants shall supply evidence of groundwater depth to the satisfaction of the Authority Having Jurisdiction.

(5) Leaching chambers shall be sized on the bottom absorption area (nominal unit width) in square feet. The required area shall be calculated using **Table K-4** with a 0.70 multiplier.

TABLE K-4
Design Criteria of Five Typical Soils

Type of Soil	Required sq.ft. of leaching area/ 100 gal. (m^2/L)		Maximum absorption capacity in gals./sq.ft. of leaching area for a 24 hr period (L/m^2)	
Coarse sand or gravel	20	(0.005)	5.0	(203.7)
Fine sand	25	(0.006)	4.0	(162.9)
Sandy loam or sandy clay	40	(0.010)	2.5	(101.8)
Clay with considerable sand or gravel	90	(0.022)	1.1	(44.8)
Clay with small amount of sand or gravel	120	(0.030)	0.8	(32.6)

K 4 Percolation Test

(A) Wherever practicable, disposal field and seepage pit sizes shall be computed from **Table K-4.** Seepage pit sizes shall be computed by percolation tests, unless use of **Table K-4** is approved by the Authority Having Jurisdiction.

(B) In order to determine the absorption qualities of seepage pits and of questionable soils other than those listed in **Table K-4**, the proposed site shall be subjected to percolation tests acceptable to the Authority Having Jurisdiction.

(C) When a percolation test is required, no private disposal system shall be permitted to serve a building if that test shows the absorption capacity of the soil is less than 0.83 gallons per square foot (33.8 L/m^2) or more than 5.12 gallons per square foot (208 L/m^2) of leaching area per 24 hours. If the percolation test shows an absorption rate greater than 5.12 gallons per square foot (208 L/m^2) per 24 hours, a private disposal system may be permitted if the site does not overlie groundwaters protected for drinking water supplies, a minimum thickness of two (2) feet (610 mm) of the native soil below the entire proposed system is replaced by loamy sand, and the system design is based on percolation tests made in the loamy sand.

K 5 Septic Tank Construction

(A) Plans for all septic tanks shall be submitted to the Authority Having Jurisdiction for approval. Such plans shall show all dimensions, reinforcing, structural calculations, and such other pertinent data as may be required.

(B) Septic tank design shall be such as to produce a clarified effluent consistent with accepted standards and shall provide adequate space for sludge and scum accumulations.

(C) Septic tanks shall be constructed of solid durable materials not subject to excessive corrosion or decay and shall be watertight.

(D) Septic tanks shall have a minimum of two (2) compartments. The inlet compartment of any septic tank shall be not less than two-thirds (2/3) of the total capacity of the tank, nor less than five hundred (500) gallons (2.0 m3) liquid capacity, and shall be at least three (3) feet (914 mm) in width and five (5) feet (1,524 mm) in length. Liquid depth shall be not less than two (2) feet (610 mm) and six (6) inches (152 mm) nor more than six (6) feet (1,829 mm). The secondary compartment of any septic tank shall have a minimum capacity of two hundred fifty (250) gallons (1.0 m3) and a maximum capacity of one- third (1/3) of the total capacity of such tank. In septic tanks having over a fifteen hundred (1,500) gallon (6.0 m^3) capacity, the secondary compartment may be not less than five (5) feet (1,524 mm) in length.

(E) Access to each septic tank shall be provided by at least two (2) manholes twenty (20) inches (508 mm) in minimum dimension or by an equivalent removable cover slab. One access manhole shall be located over the inlet and one (1) access manhole shall be located over the outlet. Wherever a first compartment exceeds twelve (12) feet (3,658 mm) in length, an additional manhole shall be provided over the baffle wall.

(F) The inlet and outlet pipe openings shall not be larger in size than the connecting sewer pipe. The vertical leg of round inlet and outlet fittings shall not be less in size than the connecting sewer pipe nor less than four (4) inches (102 mm). A baffle-type fitting shall have the equivalent cross-

sectional area of the connecting sewer pipe and not less than a four (4) inch (100 mm) horizontal dimension when measured at the inlet and outlet pipe inverts.

(G) The inlet and outlet pipe or baffle shall extend four (4) inches (100 mm) above and at least twelve (12) inches (305 mm) below the water surface. The invert of the inlet pipe shall be at a level not less than two (2) inches (51 mm) above the invert of the outlet pipe.

(H) Inlet and outlet pipe fittings or baffles and compartment partitions shall have a free vent area equal to the required cross-sectional area of the house sewer or private sewer discharging therein to provide free ventilation above the water surface from the disposal field or seepage pit through the septic tank, house sewer, and stack to the outer air.

(I) The sidewalls shall extend at least nine (9) inches (229 mm) above the liquid depth. The cover of the septic tank shall be at least two (2) inches (51 mm) above the back vent openings.

(J) Partitions or baffles between compartments shall be of solid, durable material and shall extend at least four (4) inches (102 mm) above the liquid level. An inverted fitting equivalent in size to the tank inlet, but in no case less than four (4) inches (102 mm) in size, shall be installed in the inlet compartment side of the baffle with the bottom of the fitting placed midway in the depth of the liquid. Wooden baffles are prohibited.

(K) Structural Design.

(1) General. Each such tank shall be structurally designed to withstand all anticipated earth or other loads. All septic tank covers shall be capable of supporting an earth load of not less than five hundred (500) pounds per square foot (23.9kPa) when the maximum coverage does not exceed three (3) feet (914 mm).

(2) Flood Loads. In flood hazard areas, tanks shall be anchored to counter buoyant forces during conditions of the design flood. The vent termination and service manhole of the tank shall be a minimum of 2 feet (610 mm) above the design flood elevation or fitted with covers designed to prevent the inflow of floodwater or the outflow of the contents of the tanks during conditions of the design flood.

(L) Septic tanks installed under concrete or blacktop paving shall have the required manholes accessible by extending the manhole openings to grade in a manner acceptable to the Authority Having Jurisdiction.

(M) Materials.

(1) **Concrete Septic Tanks.**
All materials used in constructing a septic tank shall be in accordance with applicable standards in Chapter 14, Table 14-1.

(2) **Steel Septic Tanks.**
The minimum wall thickness of any steel septic tank shall be No. 12 U.S. gauge (0.109) (2.8 mm), and each such tank shall be protected from corrosion both externally and internally by an approved bituminous coating or by other acceptable means.

(3) **Alternate Materials.**
(i) Septic tanks constructed of alternate materials may be approved by the Authority Having Jurisdiction when complying with approved applicable standards.
(ii) Wooden septic tanks are prohibited

(N) Prefabricated Septic Tanks.

(1) Manufactured or prefabricated septic tanks shall comply with all approved applicable standards and be approved by the Authority Having Jurisdiction.

(2) Independent laboratory tests and engineering calculations certifying the tank capacity and structural stability shall be provided as required by the Authority Having Jurisdiction.

FROM 2007 CALIFORNIA PLUMBING CODE
CHAPTER 14 MANDATORY REFERENCED STANDARDS

Table 14-1
Standards for Materials, Equipment, Joints, and Connections

Where more than one standard has been listed for the same material or method, the relevant portions of all such standards shall apply.

Standard Number	Standard Title	Application
AHAM DW-1-2004	Household Electric Dishwashers	Appliances
AHAM DW-2PR-92	Plumbing Requirements for Household Dishwashers	Appliances
AHAM FWD-1-92	Food Waste Disposers	Appliances
AHAM FWD-2PR-89	Household Food Waste Disposer Units	Appliances
ANSI A13.1-96 (R03)	Scheme for the Identification of Piping Systems	Piping
ANSI A21.10-2003	Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in. (75 mm through 1,200 mm), for Water and Other Liquids (same as AWWA C110)	Piping, Ferrous
ANSI A21.11-2000	Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings (same as AWWA C111)	Piping, Ferrous
ANSI A21.51-2002	Ductile-Iron Pipe, Centrifugally Cast, for Water (same as AWWA C151)	Piping, Ferrous
ANSI A21.53-2000	Ductile-Iron Compact Fittings, 3 in. through 24 in. (76 mm through 610 mm) and 54 in. through 64 in. (1400 mm through 1600 mm), for Water Service (same as AWWA C153)	Piping, Ferrous
ANSI A118.10-99	Load, Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installations	Fixtures
ANSI A137.1-88	Ceramic Tile	Miscellaneous
ANSI B2.1-90	Pipe Threads (Except Dryseal) (replaced by ASME B1.20.1-98)	Joints
ANSI/CSA LC 3-2000	Appliance Stands and Drain Pans	Miscellaneous
ANSI A117.1-2003	Accessible and Usable Buildings and Facilities	Miscellaneous

Standard Number	Standard Title	Application
ANSI Z4.1-95	Sanitation in Places of Employment (Table 4-1 Note 6)	Miscellaneous
ANSI A117.1-2003	Gas Clothes Dryers Type 1 Clothes Dryers	Fuel Gas
ANSI Z21.5.2a-2003	Gas Clothes Dryers Type 2 Clothes Dryers	Fuel Gas
ANSI Z21.10.1-2004	Gas Water Heaters – Volume I – Storage Water Heaters with Input Ratings of 75,000 Btu per Hour or Less (22 kW)	Appliances
ANSI Z21.10.3-2004	Gas Water Heaters – Volume III – Storage, with Input Ratings Above 75,000 Btu per Hour, Circulating and Instantaneous Water Heaters	Appliances
ANSI Z21.12b-94	Draft Hoods	Appliances
ANSI Z21.13-2004	Gas-Fired Low-Pressure Steam and Hot-Water Boilers	Appliances
ANSI Z21.15-97	Manually Operated Gas Valves for Appliances, Appliance Connector, Valves, and Hose End Valves	Valves
ANSI Z21.22-2000	Relief Valves for Hot-Water Supply Systems	Valves
ANSI Z21.24-2001	Connectors for Gas Appliances	Appliances
ANSI Z21.41-2003 CSA 6.9-2003	Quick-Disconnect Devices for Use with Gas Fuel Appliances	Joints
ANSI Z21.47b-2003	Gas-Fired Central Furnaces	Fuel Gas
ANSI Z21.56-2001 CSA 4.7-2001	Gas-Fired Pool Heaters	Swimming Pools and Spas
ANSI Z21.69a-2003 CSA 6.16-2003	Connectors for Movable Gas Appliances	Appliances
ANSI Z21.80-2003 CSA 6.22-M2003	Line Pressure Regulators	Fuel Gas
ANSI Z21.81-98 CSA 6.25-M98	Cylinder Connection Devices	Fuel Gas
ANSI Z21.86-2004 CSA 2.32-2004	Vented Gas-Fired Space-Heating Appliances	Appliances
ANSI Z34.1-93	Certification – Third Party Certification Programs for Products Processes, and Services	Certification
ANSI Z83.11-2002	Gas Food Service Equipment	Fuel Gas

Standard Number	Standard Title	Application
ANSI Z124.1-95	Plastic Bathtub Units	Fixtures
ANSI Z124.2-95	Plastic Shower Units	Fixtures
ANSI Z124.3-95	Plastic Lavatories	Fixtures
ANSI Z124.4-96	Plastic Water Closet Bowls and Tanks	Fixtures
ANSI Z124.5-97	Plastic Toilet (Water Closet) Seats	Fixtures
ANSI Z124.6-97	Plastic Sinks	Fixtures
ANSI Z124.7-97	Prefabricated Plastic Spa Shells	Fixtures
ANSI Z124.8-90	Plastic Bathtub Liners	Fixtures
IAPMO/ANSI Z124.9-2004	Plastic Urinal Fixtures (Note 1)	Fixtures
ANSI Z223.1-2002	National Fuel Gas Code (same as NFPA 54)	Fuel Gas
ISEA Z358.1-2004	Emergency Eyewash and Shower Equipment	Miscellaneous
ARI 1010-2002	Drinking Fountains and Self-Contained, Mechanically Refrigerated Drinking Water Coolers	Appliances
ASCE 25-99	Earthquake Actuated Automatic Gas Shutoff Devices	Fuel Gas
ASHRAE 90.1-2004	Energy Standard for Buildings Except Low-Rise Residential Buildings	Miscellaneous
ASME A112.1.2-2004	Air Gaps in Plumbing Systems	Fittings
ASME A112.1.3-2000	Air Gap Fittings for Use with Plumbing Fixtures, Appliances, and Appurtenances	Fixtures
ASME A112.3.1-93	Stainless Steel Drainage Systems for Sanitary, Storm, and Chemical Applications, Above and Below Ground (Note 1)	Piping, Ferrous
ASME A112.3.4-2000 (R04)	Macerating Toilet Systems and Related Components	Fixtures
ASME A112.4.1-93(R02)	Water Heater Relief Valve Drain Tubes	Appliances
ASME A112.4.2-2003	Water Closet Personal Hygiene Devices	Fixtures

Standard Number	Standard Title	Application
ASME A112.4.3-99 (R04)	Plastic Fittings for Connecting Water Closets to the Sanitary Drainage System	Piping
ASME A112.4.7-2002	Point of Use and Branch Water Submetering Systems	Miscellaneous
ASME A112.6.1M-97 (R02)	Floor-Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use	Fixtures
ASME A112.6.2-2000 (R04)	Framing-Affixed Supports for Off-the-Floor Plumbing Fixtures	Fixtures
ASME A112.6.3-2001	Floor and Trench Drains	DWV Components
ASME A112.6.4-2003	Roof, Deck, and Balcony Drains	DWV Components
ASME A112.6.7-2001	Enameled and Epoxy Coated Cast Iron and PVC Plastic Sanitary Floor Sinks	Fixtures
ASME A112.14.1-2003	Backwater Valves	Valves
ASME A112.14.3-2000	Grease Interceptors	Fixtures
ASME A112.14.4-2001	Grease Removal Devices	Fixtures
ASME A112.18.1-2005/ CSA B125.1-05	Plumbing Supply Fittings	Fixtures
ASME A112.18.2-2005/ CSA B125.2-05	Plumbing Waste Fittings	Fittings
ASME A112.18.3-2003	Backflow Protection Devices and Systems in Plumbing Fixtures	Kitchen, Lavatory, and Shower Fittings with
ASME A112.18.6-2003	Flexible Water Connectors	Piping
ASME A112.18.7-99 (R04)	Deck Mounted Bath/Shower Transfer Valves with Integral Backflow Protection	Valves
ASME A112.19.1M-94 (R04)	Enameled Cast-Iron Plumbing Fixtures (Supplement 1-1998)	Fixtures
ASME A112.19.2M-2003	Vitreous China Plumbing Fixtures and Hydraulic Fixtures Requirements for Water Closets and Urinals	Fixtures
ASME A112.19.3M-01 (R04)	Stainless Steel Plumbing Fixtures (Designed for Residential Use)	Fixtures
ASME A112.19.4M-94 (R04)	Porcelain-Enameled Formed Steel Plumbing Fixtures (Supplement 1-1998)	Fixtures
ASME A112.19.5-99	Trim for Water-Closet Bowls, Tanks, and Urinals	Fixtures

Standard Number	Standard Title	Application
ASME A112.19.7M-95	Whirlpool Bathtub Appliances	Fixtures
ASME A112.19.8M-87(R96)	Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Whirlpool Bathtub Appliances	Swimming Pools and Spas
ASME A112.19.9M-91 (R02)	Non-Vitreous Ceramic Plumbing Fixtures	Fixtures
ASME A112.19.10-2003	Dual Flush Devices for Water Closets	Fixtures
ASME A112.19.12-2000	Wall Mounted and Pedestal Mounted Adjustable and Pivoting Lavatory and Sink Carrier System	Fixtures
ASME A112.19.13-2002	Electrohydraulic Water Closets	Fixtures
ASME A112.19.14-2001	Six-Liter Water Closets Equipped with a Dual Flashing Device	Fixtures
ASME A112.19.15-2001	Bathtub/Whirlpool Bathtubs with Pressure Sealed Doors	Fixtures
ASME A112.20.1-2004	Qualification of Installers of High Purity Systems	Swimming Pools & Spas
ASME A112.20.2-2004	Qualification of Installers of Firestop Systems and Devices for Piping Systems	Certification
ASME A112.21.3M-85 (R01)	Hydrants for Utility and Maintenance Use (Note 1)	Valves
ASME A112.36.2M-91 (R02)	Cleanouts (Note 1)	DWV Components
ASME B1.20.1-83 (R01)	Pipe Threads, General Purpose, Inch	Joints
ASME B1.20.3-76 (R03)	Dryseal Pipe Threads, Inch	Joints
ASME B16.1-98	Cast-Iron Pipe Flanges and Flanged Fittings, Classes 25, 125, 250, and 800	Piping, Ferrous
ASME B16.3-98	Malleable-Iron Threaded Fittings	Piping, Ferrous
ASME B16.4-98	Gray Iron Threaded Fittings (Includes Revision Services)	Piping, Ferrous
ASME B16.5-2003	Pipe Flanges and Flanged Fittings	Joints
ASME B16.12-98	Iron Threaded Drainage Fittings (Note 1)	Piping, Ferrous
ASME B16.15-85 (R04)	Cast Bronze Threaded Fittings, Classes 125 and 250	Piping, Copper Alloy

Standard Number	Standard Title	Application
ASME B16.18-2001	Cast Copper Alloy Solder Joint Pressure Fittings (Note 1)	Piping, Copper Alloy
ASME B16.21-92	Nonmetallic Flat Gaskets for Pipe Flanges	Joints
ASME B16.22-2001	Wrought Copper and Copper Alloy Solder Joint Pressure Fittings Alloy	Piping, Copper Alloy
ASME B16.23-2002	Cast Copper Alloy Solder Joint Drainage Fittings – DWV	Piping, Copper Alloy
ASME B16.24-2001	Cast Copper Alloy Pipe Flanges and Flanged Fittings	Piping, Copper Alloy
ASME B16.26-88	Cast Copper Alloy Fittings for Flared Copper Tubes	Piping, Copper Alloy
ASME B16.29-2001	Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings–DWV Alloy (Note 1)	Piping, Copper Alloy
ASME B16.33-2002	Manually Operated Metallic Gas Valves for Use in Gas Piping Systems up to 125 psig	Valves
ASME B16.34-96	Valves – Flanged, Threaded, and Welding End	Valves
ASME B16.39-98	Pipe Unions, Malleable Iron Threaded (Includes Revision Services)	Piping, Ferrous
ASME B16.40- 2002	Manually Operated Thermoplastic Gas Shutoff and Valves in Gas Distribution Systems	Fuel Gas
ASME B16.47-96	Large Diameter Steel Flanges	Piping, Ferrous
ASME B16.50-2001	Wrought Copper and Copper Alloy Braze-Joint Pressure Fittings	Piping, Copper Alloy
ASME B31.1-2004	Power Piping	Piping
ASME B36.10M-2004	Welded and Seamless Wrought Steel Pipe	Piping, Ferrous
ASME B36.19-85(R94)	Stainless Steel	Piping, Ferrous
ASME Section IV	Rules for Construction of Heating Boilers	Miscellaneous
ASME Section VIII	Rules for Construction of Pressure Vessels	Miscellaneous
ASME Section IX	Welding and Brazing Procedures, Welders, Brazers, and Welding and Brazing Operators	Certification
ASSE 1001-2002	Atmospheric-Type Vacuum Breakers	Backflow Protection

Standard Number	Standard Title	Application
ASSE 1002-99	Anti-Siphon Fill Valves (Ballcocks) for Gravity Water Closet Flush Tank	Backflow Protection
ASSE 1003-2001	Water Pressure Reducing Valves	Valves
ASSE 1004-90	Backflow Prevention Requirements for Commercial Dishwashing Machines	Backflow Protection
ASSE 1005-99	Water Heater Drain Valves	Valves
ASSE 1006-86	Residential Use Dishwashers	Appliances
ASSE 1007-86	Home Laundry Equipment	Appliances
ASSE 1008-86	Household Food Waste Disposer Units	Appliances
ASSE 1009-90	Commercial Food Waste Grinder Units	Appliances
ASSE 1010-2004	Water Hammer Arresters	Piping
ASSE 1011-2004	Hose-Connection Vacuum Breakers	Backflow Protection
ASSE 1012-2002	Backflow Prevention with Intermediate Atmospheric Vent	Backflow Protection
ASSE 1013-2005	Reduced Pressure Principle Backflow Preventers and Reduced Pressure Fire Protection Principle Backflow Preventers	Backflow Protection
ASSE 1014-2005	Hand-Held Showers	Fixtures
ASSE 1015-2005	Double-Check Backflow Prevention Assembly and Double Check Fire Protection Backflow Prevention Assemblies	Backflow Prevention
ASSE 1016-2005	Valves for Individual Showers and Tub/Shower Combinations	Valves
ASSE 1017-2003	Temperature Actuated Mixing Valves for Hot Water Distribution Systems	Valves
ASSE 1018-2001	Trap Seal Primer Valves, Potable Water Supplied	Valves
ASSE 1019-2004	Vacuum Breaker Wall Hydrant, Freeze-Resistant Automatic Draining Type	Backflow Protection
ASSE 1020-2004	Pressure Vacuum Breaker Assembly	Backflow Protection
ASSE 1021-2001	Drains Air Gaps for Domestic Dishwasher Applications	Backflow Protection

Standard Number	Standard Title	Application
ASSE 1022-2003	Backflow Prevention for Beverage Dispensing Equipment	Backflow Protection
ASSE 1023-79	Hot Water Dispensers, Household Storage Type, Electrical	Appliances
ASSE 1024-2003	Dual Check Valve Backflow Preventers	Backflow Prevention
ASSE 1025-78	Diverters for Plumbing Faucets with Hose Spray, Anti-Siphon Type, Residential Applications	Valves
ASSE 1032-2004	Dual Check Valve Type Backflow Preventers for Carbonated Beverage Dispensers – Post Mix Types	Backflow Protection
ASSE 1035-2002	Laboratory Faucet Backflow Preventer	Backflow Protection
ASSE 1037-90	Pressurized Flushing Devices (Flushometers) for Plumbing Fixtures	Backflow Protection
ASSE 1044-2001	Trap Seal Primer Devices-Drainage Types and Electronic Design Types	DWV Components
ASSE 1047-2005	Reduced Pressure Detector Fire Protection Backflow Prevention Assemblies	Backflow Protection
ASSE 1048-2005	Double Check Detector Fire Protection Backflow Prevention Assemblies	Backflow Protection
ASSE 1052-2004	Hose Connection Backflow Preventers	Backflow Protection
ASSE 1055-97	Chemical Dispensing Systems	Backflow Protection
ASSE 1056-2001	Spill Resistant Vacuum Breakers	Backflow Protection
ASSE 1062-97	Temperature Actuated Flow Reduction (TAFR) Valves for Individual Fixture Fittings	Valves
ASSE 1066-97	Individual Pressure Balancing In-Line Valves for Individual Fixture Fittings (Note 9)	Valves
ASSE 1069-2005	Automatic Temperature Control Mixing Valves	Valves
ASSE 1070-2004	Water Temperature Limiting Devices	Valves
ASSE Series 5000-2004	Professional Qualification Standard for Backflow Prevention Assembly Testers, Repairers, and Surveyors	Backflow Protection
ASSE 6000-2004	Medical Gas Systems Installers, Inspectors, and Verifiers, Maintenance Personnel and Instructors	Certification
ASTM A 47-99 (R04)	Ferritic Malleable Iron Castings	Piping, Ferrous

Standard Number	Standard Title	Application
ASTM A 48-2003	Gray Iron Castings	Piping, Ferrous
ASTM A 53-2004a	Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded, and Seamless	Piping, Ferrous
ASTM A 74-2004a	Cast-Iron Soil Pipe and Fittings (Note 1)	Piping, Ferrous
ASTM A 126-2004	Gray Iron Castings for Valves, Flanges, and Pipe Fittings	Piping, Ferrous
ASTM A 197M-2000	Cupola Malleable Iron (Metric)	Piping, Ferrous
ASTM A 269-2004	Seamless and Welded Austenitic Stainless Steel Tubing for General Service	Piping, Ferrous
ASTM A 312-2004b	Seamless and Heavy Cold Worked Welded Austenitic Stainless Steel Pipes	Piping, Ferrous
ASTM A 377-2003	Ductile-Iron Pressure Pipe	Piping, Ferrous
ASTM A 479-2005	Stainless Steel Bars and Shapes for Use in Boilers and Other Pressure Vessels	Piping, Ferrous
ASTM A 518-99(R03)	Corrosion-Resistant High-Silicon Iron Castings	Piping, Ferrous
ASTM A 536-84(R04)	Ductile Iron Castings	Piping, Ferrous
ASTM A 653M-2004a	Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process	Piping, Ferrous
ASTM A 733-2003	Welded and Seamless Carbon Steel and Austenitic Stainless Steel Pipe Nipples	Piping, Ferrous
ASTM A 861-2004	High-Silicon Iron Pipe and Fittings (Note 1)	Piping, Ferrous
ASTM A 888-2004a	Hubless Cast-Iron Soil Pipe and Fittings for Sanitary and Storm Drain Waste and Vent Piping Applications	Piping, Ferrous
ASTM B 29-2003	Refined Lead	Joints
ASTM B 32-2004	Solder Metal (Note 4)	Joints
ASTM B 42-2002^{e1}	Seamless Copper Pipe, Standard Sizes	Piping, Copper Alloy
ASTM B 43-98(R04)	Seamless Red Brass Pipe, Standard Sizes	Piping, Copper Alloy
ASTM B 75-2002	Seamless Copper Tube	Piping, Copper Alloy

Standard Number	Standard Title	Application
ASTM B 88- 2003	Seamless Copper Water Tube	Piping, Copper Alloy
ASTM B 135-2002	Seamless Brass Tube (Metric)	Piping, Copper Alloy
ASTM B 152-2000	Copper Sheet, Strip, Plate, and Rolled Bar	Miscellaneous
ASTM B 251-2002^{e1}	General Requirements for Wrought Seamless Copper Copper-Alloy Tube	Piping, Copper Alloy
ASTM B 280-2003	Seamless Copper Tube for Air Conditioning and Refrigeration Field Service	Piping, Copper Alloy
ASTM B 302-2002	Threadless Copper Pipe, Standard Sizes	Piping, Copper Alloy
ASTM B 306-2002	Copper Drainage Tube (DWV)	Piping, Copper Alloy
ASTM B 370-2003	Copper Sheet and Strip for Building Construction	Miscellaneous
ASTM B 447-2002	Welded Copper Tube	Piping, Copper Alloy
ASTM B 584-2004	Copper Alloy Sand Casting for General Applications (Note 5)	Piping, Copper Alloy
ASTM B 587-97^{e1} (R03)	Welded Brass Tube	Piping, Copper Alloy
ASTM B 687-99	Brass, Copper, and Chromium-Plated Pipe Nipples	Piping, Copper Alloy
ASTM B 813-2000^{e1}	Liquid and Paste Fluxes for Soldering Applications of Copper and Copper Alloy Tube	Joints
ASTM B 819-2000	Seamless Copper Tube for Medical Gas Systems	Piping, Copper Alloy
ASTM B 828-2002	Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings	Joints
ASTM C 14-2003	Concrete Sewer, Storm Drain, and Culvert Pipe	Piping, Non-Metallic
ASTM C 296-2000	Asbestos-Cement Pressure Pipe	Piping, Non-Metallic
ASTM C 412-2003	Concrete Drain Tile	Piping, Non-Metallic
ASTM C 425-2004	Compression Joints for Vitrified Clay Pipe and Fittings	Joints
ASTM C 428-97(R02)^{e1}	Asbestos-Cement Nonpressure Sewer Pipe (Notes 6 and 7)	Piping, Non-Metallic

Standard Number	Standard Title	Application
ASTM C 443-2005	Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets	Joints
ASTM C 478-2003a	Precast Reinforced Concrete Manhole Sections	Miscellaneous
ASTM C 564-2003a	Rubber Gaskets for Cast-Iron Soil Pipe and Fittings	Joints
ASTM C 700-2002	Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated	Piping, Non-Metallic
ASTM C 1053-2000	Borosilicate Glass Pipe and Fittings for Drain, Waste, and Vent (DWV) Applications (Note 1)	Piping, Non-Metallic
ASTM C 1173-2004	Flexible Transition Couplings for Underground Piping Systems	Joints
ASTM C 1277-2004	Shielded Couplings Joining Hubless Cast-Iron Soil Pipe and Fittings	Piping, Ferrous
ASTM C 1440-2003	Thermoplastic Elastomeric (TPE) Gasket Materials for Drain, Waste, and Vent (DWV), Sewer, Sanitary and Storm Plumbing Systems	Piping, Plastic
ASTM C 1460-2004	Shielded Transition Couplings for Use with Dissimilar DWV Pipe and Fittings Above Ground	Piping, Plastic
ASTM C 1461-2002	Mechanical Couplings Using Thermoplastic Elastomeric (TPE) Gaskets for Joining Drain, Waste, and Vent (DWV); Sewer; Sanitary; and Storm Plumbing Systems for Above and Below Ground	Piping, Plastic
ASTM C 1540-2004	Heavy Duty Shielded Couplings Joining Hubless Cast Iron Soil Pipe and Fittings	Joints
ASTM D 1527-99e1	Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe, Sch. 40 and 80	Piping, Plastic
ASTM D 1784-2003	Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds	Piping, Plastic
ASTM D 1785-2004a	Poly(Vinyl Chloride) (PVC) Plastic Pipe, Sch. 40, 80, and 120	Piping, Plastic
ASTM D 1869-95(R00)	Rubber O-rings for Asbestos-Cement Pipe	Joints
ASTM D 2104-2003	Polyethylene (PE) Plastic Pipe, Sch. 40	Piping, Plastic
ASTM D 2235-2004	Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings	Joints
ASTM D 2239-2003	Polyethylene (PE) Plastic Pipe, (SDR-PR) Based on Controlled Inside Diameter	Piping, Plastic
ASTM D 2241-2004b	Poly(Vinyl Chloride)(PVC) Pressure-Rated Pipe (SDR Series)	Piping, Plastic
ASTM D 2282-99e1	Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe (SDR-PR)	Piping, Plastic

Standard Number	Standard Title	Application
ASTM D 2321-2000	Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications	Piping, Plastic
ASTM D 2447-2003	Polyethylene (PE) Plastic Pipe, Sch. 40 and 80 (Based on Controlled Outside Diameter)	Piping, Plastic
ASTM D 2464-99e1	Threaded Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Sch. 80 (Note 1)	Piping, Plastic
ASTM D 2466-2002	Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Sch. 40 (Note 1)	Piping, Plastic
ASTM D 2513-2004a	Thermoplastic Gas Pressure Pipe Tubing and Fittings (Note 1)	Piping, Plastic
ASTM D 2517-2000e1	Reinforced Epoxy Resin Gas Pressure Pipe and Fittings	Piping, Plastic
ASTM D 2564-2004	Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems	Joints
ASTM D 2609-2002	Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe (Note 1)	Piping, Plastic
ASTM D 2657-2003	Practice for Heating Fusion Joining of Polyolefin Pipe Fittings (Note 1)	Joints
ASTM D 2661-2002	Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 Plastic Drain, Waste, and Vent Pipe and Fittings (Note 1)	Piping, Plastic
ASTM D 2665-2004a	Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings (Note 1)	Piping, Plastic
ASTM D 2672-96a (R03)	Joints for IPS PVC Pipe Using Solvent Cement	Joints
ASTM D 2680-2001	Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Piping	Piping, Plastic
ASTM D 2729-2003	Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings (Note 1)	Piping, Plastic
ASTM D 2737-2003	Polyethylene (PE) Plastic Tubing	Piping, Plastic
ASTM D 2751-96a	Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings (Note 1)	Piping, Plastic
ASTM D 2846-99e1	Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems	Piping, Plastic
ASTM D 2855-96(R02)	Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings	Joints
ASTM D 2996-2001	Filament-Wound Fiberglass (Glass-Fiber-Reinforced Thermosetting Resin) Pipe	Piping, Plastic
ASTM D 3034-2004a	Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings	Piping, Plastic

Standard Number	Standard Title	Application
ASTM D 3035-2003a	Polyethylene(PE) Plastic Pipe (DR-PR) (Based on Controlled Outside Diameter)	Piping, Plastic
ASTM D 3122-95(R02)	Solvent Cements for Styrene-Rubber (SR) Plastic Pipe and Fittings	Joints
ASTM D 3138-2004	Solvent Cements for Transition Joints, Acrylonitrile-Butadiene- Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components	Joints
ASTM D 3139-98	Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals	Joints
ASTM D 3212-96a (R03)e1	Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals	Joints
ASTM D 3311-2002e1	Drain, Waste, and Vent (DWV) Plastic Fittings Patterns (Note 1)	Piping, Plastic
ASTM D 3965-2004	Rigid Acrylonitrile-Butadiene-Styrene (ABS) Materials for Pipe and Fittings	Piping, Plastic
ASTM D 4068-2001	Chlorinated Polyethylene (CPE) Sheeting for Concealed Water-Containment Membrane	Fixtures
ASTM D 4101-2004a	Propylene Plastic Injection and Extrusion Materials	Miscellaneous
ASTM D 4551-96 (R01)	Poly(Vinyl Chloride) (PVC) Plastic Flexible Concealed Water-Containment Membrane	Fixtures
ASTM D 6104-97 (R03)	Determining the Performance of Oil/Water Separators Subjected to Surface Run-Off	Fixtures
ASTM E 84-2004	Surface Burning Characteristics of Building Materials	Miscellaneous
ASTM E 119-2000a	Fire Tests of Building Construction and Materials	Miscellaneous
ASTM E 814- 2002	Fire Tests of Through-Penetration Fire Stops	Miscellaneous
ASTM F 402-93(R99)	Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings	Joints
ASTM F 405-97	Corrugated Polyethylene (PE) Tubing and Fittings	Piping, Plastic
ASTM F 409-2002	Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings (Note 1)	Piping, Plastic
ASTM F 437-99	Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Sch. 80	Piping, Plastic
ASTM F 438-2004	Socket-Type Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Sch. 40	Piping, Plastic
ASTM F 439-2002 e1	Socket-Type Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Sch. 80	Piping, Plastic

Standard Number	Standard Title	Application
ASTM F 441-2002	Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe, Sch. 40 and 80	Piping, Plastic
ASTM F 442-99	Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR)	Piping, Plastic
ASTM F 480-2002	Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR) Schedule 40 and Schedule 80	Piping, Plastic
ASTM F 493-2004	Solvent Cements for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe and Fittings	Joints
ASTM F 628-2001	Acrylonitrile-Butadiene-Styrene (ABS) Sch. 40 Plastic Drain, Waste, and Vent Pipe with a Cellular Core, (Note 1)	Piping, Plastic
ASTM F 656-2002	Primers for Use in Solvent Cement Joints of Poly(Vinyl Chloride) (PVC) Plastic Pipe and Fittings	Joints
ASTM F 667-97	Large Diameter Corrugated Polyethylene Tubing and Fittings	Piping, Plastic
ASTM F 714-2003	Polyethylene (PE) Plastic Pipe (SDR-PR) (Based on Outside	Piping, Plastic
ASTM F 789-2003	Type PS-46 and Type PS-115 Poly(Vinyl Chloride) (PVC) Plastic Gravity Flow Sewer Pipe and Fittings (Note 1)	Piping, Plastic
ASTM F 794-2003	Poly(Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter	Piping, Plastic
ASTM F 810-2001	Smoothwall Polyethylene (PE) Pipe for Use in Drainage and Waste Disposal Absorption Fields	Piping, Plastic
ASTM F 876-2004a	Crosslinked Polyethylene (PEX) Tubing	Piping, Plastic
ASTM F 877-2002a	Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems	Piping, Plastic
ASTM F 891-2004	Coextruded Poly(Vinyl Chloride) (PVC) Plastic Pipe with a Cellular Core	Piping, Plastic
ASTM F 894-98a	Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe	Piping, Plastic
ASTM F 949-2003	Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings	Piping, Plastic
ASTM F 1216-2003	Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube	Piping, Plastic
ASTM F 1281-2003	Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Pressure Pipe	Piping, Plastic
ASTM F 1282-2003	Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe	Piping, Plastic
ASTM F 1412-2001^{e1}	Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems	Piping, Plastic

Standard Number	Standard Title	Application
ASTM F 1476-2001	Gasketed Mechanical Couplings for Use in Piping Application	Joints
ASTM F 1673-2004	Polyvinylidene Fluoride (PVDF) Corrosive Waste Drainage Systems	Piping, Plastic
ASTM F 1743-96(R03)	Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting	Piping, Plastic
ASTM F 1807-2004	Metal Insert Fittings with Copper Crimp Ring for SDR 9 Crosslinked Polyethylene (PEX) Tubing	Piping, Plastic
ASTM F 1866-98	Poly(Vinyl Chloride) (PVC) Drainage and DWV Fabricated Fittings, Schedule 40	Piping, Plastic
ASTM F 1924-2001^{e1}	Plastic Mechanical Fitting for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing	Piping, Plastic
ASTM F 1948-99a^{e1}	Metallic Mechanical Fittings for Use on Outside Diameter Controlled Thermoplastic Gas Distribution Pipe and Tubing	Piping, Plastic
ASTM F 1960-2003	Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-Linked Polyethylene (PEX) Tubing	Piping, Plastic
ASTM F 1961-2002a	Metal Cold Flare Compression Fittings with Disc Springs for Crosslinked Polyethylene (PEX) Tubing	Piping, Plastic
ASTM F 1970-2001	Special Engineered Fittings or Appurtenances for Use in Poly (Vinyl Chloride) (PVC) or Chlorinated Poly(Vinyl Chloride) (CPVC) Systems	Piping, Plastic
ASTM F 1973-2002	Factory Assembled Anodeless Riser and Transition Fitting in Polyethylene (PE) Fuel Gas Distribution Systems	Piping, Plastic
ASTM F 1974-2004	Metal Insert Fittings for Polyethylene/Aluminum/Polyethylene and Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Composite Pressure Pipe	Piping, Plastic
ASTM F 2080-2004	Cold-Expansion Fittings With Metal Compression Sleeves for Cross-Linked Polyethylene (PEX) Pipe	Piping, Plastic
ASTM F 2098-2001	Stainless Steel Clamps for Securing SDR9 Cross-Linked Polyethylene (PEX) Tubing to Metal Insert Fittings	Joints
ASTM F 2159-2003	Plastic Insert Fittings Utilizing a Copper Ring for SDR 9 Cross-Linked Polyethylene (PEX) Tubing	Joints
ASTM F 2165-2002	Flexible Pre-Insulated Piping	Piping, Plastic
ASTM F 2262-2004	Cross-Linked Polyethylene/Aluminum/Cross-Linked Polyethylene Tubing OD Controlled SDR 9	Piping, Plastic
ASTM F2434-2004	Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Cross- Linked Polyethylene/Aluminum/Cross-linked Polyethylen (PEX-AL-PEX) Tubing	Piping, Plastic
AWS A5.8-2004	Filler Metals for Brazing and Braze Welding	Joints
AWS B2.2-91	Brazing Procedure and Performance Qualification	Certification

Standard Number	Standard Title	Application
AWWA C110-2003	Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in. (75 mm through 1200 mm), for Water and Other Liquids (same as ANSI A21.10-98)	Piping, Ferrous
AWWA C111-2000	Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings (same as ANSI A21.11-00)	Piping, Ferrous
AWWA C151-2002	Ductile-Iron Pipe, Centrifugally Cast, for Water (same as ANSI A21.51-91)	Piping, Ferrous
AWWA C153-2000	Ductile-Iron Compact Fittings, 3 in. through 24 in. (76 mm through 610 mm) and 54 in. through 64 in. (1400 mm through 1600 mm), for Water Service (same as ANSI A21.53-00)	Piping, Ferrous
AWWA C203-2002	Coal-Tar Protective Coatings and Linings for Steel Water Pipelines – Enameled and Tape – Hot Applied	Piping
AWWA C213-2001	Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines	Piping, Ferrous
AWWA C215-2004	Extruded Polyolefin Coatings for the Exterior of Steel Water Pipelines	Piping, Ferrous
AWWA C400-2003	Asbestos-Cement Distribution Pipe, 4 in. through 16 in. (100 mm through 400 mm) for Water Distribution Systems	Piping, Non-Metallic
AWWA C500-2002	Gate Valves for Water and Sewerage Systems Valves	Valves
AWWA C504-2000	Rubber-Seated Butterfly Valves	Valves
AWWA C507-99	Ball Valves, 6 in. through 48 in. (150 mm through 1200 mm)	Valves
AWWA C510-97	Double Check Valve Backflow-Prevention Assembly	Backflow Protection
AWWA C511-97	Reduced-Pressure Principle Backflow-Prevention Assemblies	Backflow Protection
AWWA C606-2004	Grooved- and Shouldered-Type Joints	Joints
AWWA C900-97	Poly (Vinyl Chloride)(PVC) Pressure Pipe, 4 in. through 12 in., for Water Distribution	Piping, Plastic
AWWA C901-2002	Polyethylene (PE) Pressure Pipe and Tubing, 1/2 in. (13 mm) through 3 in. (76 mm), for Water Service	Piping, Plastic
AWWA C907-91	Poly (Vinyl Chloride) (PVC) Pressure Fittings for Water - 4 in. Through 8 in. (100 mm through 200 mm)	Piping, Plastic
CGA V-1	Compressed Gas Association Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connection	Valves
CGA S-1.3	Pressure Relief Device Standards-Part 3-Stationary Storage Containers for Compressed Gases	Fuel Gas
CISPI 301-2004a	Hubless Cast-Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications (Note 1	Piping, Ferrous

Standard Number	Standard Title	Application
CISPI 310-2004	Couplings for Use in Connection with Hubless Cast-Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications	Joints
CSA 3-92	U.S. Requirements for Excess Flow Valves	Valves
CSA A257-2003	Concrete Pipe and Manhole Sections	Piping
CSA B45-2002	Plumbing Fixtures	Fixtures
CSA B45.1-2002	Ceramic Plumbing Fixtures	Fixtures
CSA B45.2-2002	Enameled Cast-Iron Plumbing Fixtures	Fixtures
CSA B45.3-2002	Porcelain-Enameled Steel Plumbing Fixtures	Fixtures
CSA B45.4-2002	Stainless Steel Plumbing Fixtures	Fixtures
CSA B45.5-2002	Plastic Plumbing Fixtures	Fixtures
CSA B45.9-2002	Macerating Systems and Related Components	DWV Components
CSA B45.10-2001	Hydromassage Bathtubs	Fixtures
CSA B45.11-2004	Glass Lavatories	Fixtures
CSA B64-2001	Backflow Preventers and Vacuum Breakers	Backflow Protection
CSA B64.1.1-2001	Vacuum Breaker, Atmospheric Type (AVB)	Backflow Protection
CSA B64.1.2-2001	Vacuum Breaker, Pressure Type (PVB)	Backflow Protection
CSA B64.2-2001	Vacuum Breaker, Hose Connection Type (HCVB)	Backflow Protection
CSA B64.2.1.1-2001	Vacuum Breaker, Hose Connection Type with Automatic Drainage Feature (HCVB)	Backflow Protection
CSA B64.4-2001	Backflow Preventers, Reduced Pressure Principle Type (RP)	Backflow Protection
CSA B64.4.1-2001	Backflow Preventers, Reduced Pressure Principle Type for Fire System (RPF)	Backflow Protection
CSA B64.5-2001	Backflow Preventers, Double Check Valve Type (DVCA)	Backflow Protection

Standard Number	Standard Title	Application
CSA B64.5.1-2001	Backflow Preventers, Double Check Valve Type for Fire System (DVCAF)	Backflow Protection
CSA B64.7-2001	Vacuum Preventers, Laboratory Faucet Type (LFVB)	Backflow Protection
CSA B125-2001	Plumbing Fittings	Valves
CSA B137.1-2002	Polyethylene Pipe, Tubing, and Fittings for Cold Water Pressure Services	Piping, Plastic
CSA B137.5-2002	Crosslinked Polyethylene (PEX) Tubing Systems for Pressure Applications	Piping, Plastic
CSA B137.9-2002	Polyethylene/Aluminum/Polyethylene Composite Pressure-Pipe Systems	Piping, Plastic
CSA B137.10-2002	Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Composite Pressure-Pipe Systems	Piping, Plastic
CSA B181.3-2002	Polyolefin Laboratory Drainage Systems	Piping/Plastic
IAPMO PS 33-2004	Flexible PVC Hose for Pools, Hot Tubs, Spas and Jetted Bathtub	Piping, Plastic
IAPMO PS 34-2003	Encasement Sleeve for Potable Water Pipe and Tubing	Piping
IAPMO PS 36-90	Lead-Free Sealing Compounds for Threaded Joints	Joints
IAPMO PS 37-90	Black Plastic PVC or PE Pressure-Sensitive Corrosion Preventive Tape	Piping
IAPMO PS 40-2001	Anodeless Transition Riser for Use with PVC Gas Yard Piping	Fuel Gas
IAPMO PS 42-96	Pipe Alignment and Secondary Support Systems	Piping
IAPMO PS 43-91	Cushioned Bathtubs and Whirlpool Bathtub Appliances	Fixtures
IAPMO PS 46-2004	Non-Integral Tile Flange Kits	Miscellaneous
IAPMO PS 50-2003	Flush Valves with Dual Flush Devices For Water Closets	Fixtures
IAPMO PS 51-98	Plastic and Metallic Expansion Joints	Joints
IAPMO PS 52-2004b	Sumps and Sewage Ejector Tanks	DWV Components
IAPMO PS 53-92	Grooved Mechanical Pipe Couplings and Grooved End Fittings	Joints

Standard Number	Standard Title	Application
IAPMO PS 54-2003a	Metallic and Plastic Utility Boxes	Miscellaneous
IAPMO PS 55-92	Bathwaste Strainer Drains	Fixtures
IAPMO PS 57-2002	PVC Hydraulically Actuated Diaphragm Type Water Control Valves	Valves
IAPMO PS 59-92	Septic Effluent and Waste Water Diverter Valves	DWV Components
IAPMO PS 60-96	Sewage Holding Tank Containing Sewage Ejector Pump for Direct-Mounted Water Closet	DWV Components
IAPMO PS 61-92	Fabricated Stainless Steel Security Water Closets	Fixtures
IAPMO PS 63-2004a	Plastic Leaching Chambers	DWV Components
IAPMO PS 64-98	Pipe Flashings	Piping
IAPMO PS 65-2002	Air Gap Units for Water Conditioning Equipment Installation	Backflow Protection
IAPMO PS 66-2000	Dielectric Waterway Fittings	Piping
IAPMO PS 67-93	Early-Closure Replacement Flappers or Early-Closure Replacement Flapper With Mechanical Assemblies	Fixtures
IAPMO PS 69-2003a	Plastic Bathwaste and Overflow Assemblies	Piping, Plastic
IAPMO PS 72-2003	Valves with Atmospheric Vacuum Breakers	Valves
IAPMO PS 73-93	Dental Vacuum Pumps	Miscellaneous
IAPMO PS 76-95	Ballcock or Flushometer Valve Tailpiece Trap Primers and Trap Primer Receptors/Adapters	DWV Components
IAPMO PS 79-2003	Multiport Electronic Trap Primer	DWV Components
IAPMO PS 80-2003b	Grease Interceptors and Clarifiers	DWV Components
IAPMO PS 81-2000	Precast Concrete Seepage Pit Liners and Covers	DWV Components
IAPMO PS 82-95	Fiberglass (Glass Fiber Reinforced Thermosetting Resin) Fittings	Piping, Plastic
IAPMO PS 85-95	Tools for Mechanically Formed Tee Connections in Copper Tubing	Piping

Standard Number	Standard Title	Application
IAPMO PS 86-95	Rainwater Diverter Valve for Non-Roofed Area Slabs	DWV Components
IAPMO PS 87-95	Diverter and Shutoff Valves for Pool/Spas	Valves
IAPMO PS 88-2002	Pre-Pressurized Potable Water Tanks	Miscellaneous
IAPMO PS 89-95	Soaking and Hydrotherapy (Whirlpool) Bathtubs with Hydraulic Seatlift	Fixtures
IAPMO PS 90-2003	Elastomeric Test Caps/Cleanout Caps	DWV Components
IAPMO PS 91-95	Plastic Stabilizers for Use with Plastic Closet Bends	Piping, Plastic
IAPMO PS 92-2003	Heat Exchangers	Miscellaneous
IAPMO PS 93-2004a	Water Closet Seats with Spray, Water Closet Seats with Spray and other Devices with Spray for Water Closet	Fixtures
IAPMO PS 94-2001a	P-Trap, Supply Stop, and Riser Insulated Protector	Miscellaneous
IAPMO PS 95-2001	Drain, Waste, and Vent Hangers and Plastic Pipe Support Hooks	Piping
IAPMO PS 96-2002	Passive Direct Solar Water Heaters	Miscellaneous
IAPMO PS 97-2001	Mechanical Cast-Iron Closet Flanges	Piping, Ferrous
IAPMO PS 98-96	Prefabricated Fiberglass Church Baptistries	Fixtures
IAPMO PS 99-2004	Terrazzo Marble, Concrete, and Granite Plumbing Fixtures	Fixtures
IAPMO PS 100-96	Porous Filter Protector for Subdrain Weep Holes	DWV Components
IAPMO PS 101-97	Suction Relief Valves	Valves
IAPMO PS 102-2004a	Pedestal Lavatory Trap	DWV Components
IAPMO PS 104-97	Pressure Relief Connection for Dispensing Equipment	Valves
IAPMO PS 105-97	Polyethylene Distribution Boxes	DWV Components
IAPMO PS 106-98	Prefabricated, Tileable Shower Receptors	Fixtures

Standard Number	Standard Title	Application
IAPMO PS 107-98	Aramid-Reinforced Rubber Hose for Use in Non-Potable Water Radiant Heating and Snow Melting	Piping, Plastic
IAPMO PS 108-98	Restaurant Fire Suppression Systems	Appliances
IAPMO PS 110-99	PVC Cold Water Compression Fittings	Fittings
IAPMO PS 111-99	PVC Cold Water Gripper Fittings	Fittings
IAPMO PS 112-99	PVC Plastic Valves for Cold Water Distribution Systems Outside a Building and CPVC Plastic Valves for Hot and Cold Water Distribution Systems	Valves
IAPMO PS 113-99e1	Hydraulically Powered Household Food Waster Grinders	Appliances
IAPMO PS 114-99e1	Remote, Floor Box Industrial Water Supply, Air Supply, Drainage	Miscellaneous
IAPMO PS 115-2002	Hot Water Demand or Automatic Activated Hot Water Pumping Systems	Miscellaneous
IAPMO PS 116-99	Hot Water Circulating Devices Which Do Not Use a Pump	Miscellaneous
IAPMO PS 117-2004a	Press Type or Plain End Rubber Gasketed with Nail Connector Fittings for Copper Alloy Installation on Copper Tubing	Fittings
IAPMO PS 118-2000	FOG (Fats, Oils, Greases) Disposal Systems	DWV Components
IAPMO PS 119-2000	Water Energized Sump Pump	Miscellaneous
IAS 1-91	U.S. Requirements for Indirect Water Heaters for Use with External Heat Source	Miscellaneous
IAS LC 1b-2001 CSA 6.26-M99	Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing (CSST) Fuel Gas	Fuel Gas
ISO Guide 65-96	General Requirements for Bodies Operating Product Certification Systems	Certification
MSS SP-25-98	Standard Marking System for Valves, Fittings, Flanges, and Unions	Piping
MSS SP-42-2004	Class 150 Corrosion-Resistant Gate-Globe, Angle, and Check Valves with Flanged and Butt Weld Ends	Piping, Ferrous
MSS SP-44-96	Steel Pipeline Flanges	Piping, Ferrous
MSS SP-58-2002	Pipe Hangers and Supports – Materials, Design, and Manufacture	Piping
MSS SP-67-2002a	Butterfly Valves	Valves

Standard Number	Standard Title	Application
MSS SP-69-2002	Pipe Hangars and Supports - Selection and Application	Piping
MSS SP-70-98	Cast-Iron Gate Valves, Flanged and Threaded Ends	Valves
MSS SP-71-97	Cast-Iron Swing Check Valves, Flanged and Threaded Ends	Valves
MSS SP-72-99	Ball Valves with Flanged or Butt-Welding Ends for General Service	Valves
MSS SP-73-2003	Brazing Joints for Wrought and Cast Copper Alloy Solder Joint Pressure Fittings	Joints
MSS SP-78-98	Brazing Joints for Wrought and Cast Copper Alloy Solder Joint Pressure Fittings	Valves
MSS SP-80-2003	Cast-Iron Plug Valves, Flanged and Threaded Ends	Valves
MSS SP-83-2001	Bronze Gate-Globe, Angle, and Check Valves	Piping, Ferrous
MSS SP-83-2001	Class 300 Steel Pipe Unions Socket-Welding and Threaded	Piping, Ferrous
MSS SP-89-98	Pipe Hangars and Supports - Fabrication and Installation Practices	Piping
MSS SP-104-2003	Wrought Copper Solder Joint Pressure Fittings	Piping, Copper Alloy
MSS SP-106-2003	Cast Copper Alloy Flanges and Flanges Fittings, CLass 125, 150, and 300	Piping, Copper Alloy
MSS SP-109-97	Welded Fabricated Copper Solder Joint Pressure Fittings	Piping, Copper Alloy
MSS SP-123-98	Non-Ferrous Threaded and Solder-Joint Unions for Use with Copper Water Tube	Piping, Copper Alloy
NFPA 13R-2002	Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height	Miscellaneous
NFPA 13D-2002	Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes	Miscellaneous
NFPA 31-2001	Installation of Oil-Burning Equipment	Miscellaneous
NFPA 54-2006	National Fuel Gas Code (same as ANSI Z223.1)	Fuel Gas
NFPA 58-2004	Storage and Handling of Liquefied Petroleum Gases	Fuel Gas
NFPA 85-2004	Boiler and Combustion Systems Hazards Code	Appliances

Standard Number	Standard Title	Application
NFPA 99-2002	Health Care Facilities	Piping
NFPA 99C-2002	Gas and Vacuum Systems	Piping
NFPA 130-2003	Fixed Guideway Transit and Passenger Rail Systems	Miscellaneous
NFPA 211-2003	Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances Quality for Fire and Emergency Services	Miscellaneous
NFPA 502-2004	Road Tunnels, Bridges, and Other Limited Access Highways	Miscellaneous
NFPA 1989-2003	Breathing Air Quality for Fire and Emergency Services Respiration Protection	Miscellaneous
NSF 3-2003	Commercial Spray-Type Dishwashing and Glasswashing Machines	Appliances
NSF 12-2003e	Automatic Ice Making Equipment	Appliances
NSF 14-20041	Plastic Piping Components and Related Materials	Piping, Plastic
NSF 18-2004	Manual Food and Beverage Dispensing Equipment	Appliances
NSF 24-88(R96)	Plumbing System Components for Manufactured Homes and Recreational Vehicles	Miscellaneous
NSF 29-2003	Chemical Feeders for Commercial Dishwashers	Appliances
NSF 40-2000	Residential Wastewater Treatment Systems	DWV Components
NSF 41-99	Non-Liquid Saturated Treatment Systems	DWV Components
NSF 42-2002e	Drinking Water Treatment Units–Aesthetic Effects	Appliances
NSF 44-2004	Residential Cation Exchange Water Softeners	Appliances
NSF 46-2004	Evaluation of Components and Devices Used in Wastewater Treatment Systems	DWV Components
NSF 53-2004	Drinking Water Treatment Units–Health Effects	Appliances
NSF 58-2004	Reverse-Osmosis Drinking Water Treatment Systems	Appliances
NSF 61-2004	Drinking Water System Components–Health Effects	Miscellaneous

Standard Number	Standard Title	Application
NSF 62-2004	Water Distillation Systems	Appliances
NSPI 1-2003	Public Swimming Pools	Swimming Pools and Spas
PDI G-101-85	Testing and Rating Procedure for Grease Interceptors with Appendix of Sizing and Installation Data	DWV Components
PDI-WH 201-92	Water Hammer Arresters	Piping
SAE J 512-97	Automotive Tube Fittings	Fittings
SAE J1670-93	Type F Clamps for Plumbing Applications	Joints
SAMA LF6a	Medical Care Facility Brassware	Miscellaneous
UL 80-2004	Steel Inside Tanks for Oil-Burner Fuel	Miscellaneous
UL 103-2001	Factory-Built Chimneys for Residential Type and Building Heating Appliances	Miscellaneous
UL 125-97	Valves for Anhydrous Ammonia and LPG (Other than Safety Relief)	Valves
UL 132-97	Safety Relief Valves for Anhydrous Ammonia and LPG	Valves
UL 144-99	LPG Regulators	Valves
UL 174-2004	Household Electric Storage Tank Water Heaters	Appliances
UL 252-2003	Compressed Gas Regulations	Valves
UL 296-2003	Oil Burners	Appliances
UL 343-97	Pumps for Oil-Burning Appliances	Pumps
UL 352-97	Constant-Level Oil Valves	Valves
UL 378-93	Draft Equipment	Miscellaneous
UL 399-93	Drinking-Water Coolers	Appliances
UL 430-2004	Waste Disposers	Appliances

Standard Number	Standard Title	Application
UL 441-96	Gas Vents	Miscellaneous
UL 443-95	Steel Auxiliary Tanks for Oil-Burner Fuel	Miscellaneous
UL 499-97	Electrical Heating Appliances	Appliances
UL 563-95	Ice Makers	Appliances
UL 569-95	Pigtails and Flexible Hose Connectors for LP-Gas	Fuel Gas
UL 723-2004	Standard Test for Surface Burning Characteristics of Building Materials	Miscellaneous
UL 726-95	Oil-Fired Boiler Assemblies	Appliances
UL 732-95	Oil-Fired Storage Tank Water Heaters	Appliances
UL 749-97	Household Dishwashers	Appliances
UL 778-2002	Motor-Operated Water Pumps	Pumps
UL 834-2004	Heating, Water Supply, and Power Boilers–Electric	Appliances
UL 921-96	Commercial Electric Dishwashers	Appliances
UL 959-2001	Factory Built, Medium Heat Appliance Chimneys	Miscellaneous
UL 1206-2003	Electric Commercial Clothes Washing Equipment	Appliances
UL 1453-2004	Electric Booster and Commercial Storage Tank Water Heaters	Appliances
WQA S-300-91	Point-of-Use Low Pressure Reverse Osmosis Drinking Water Systems	Appliances

Notes:

1 Although this standard is referenced in Table 14-1, some of the pipe, tubing, fittings, valves, or fixtures included in the standard are not acceptable for use under the provisions of the Uniform Plumbing Code.

4 See Section 316.1.3 for restriction.

5 Alloy C85200 for cleanout plugs.

6 Limited to domestic sewage.

7 Type II only.

9 ASSE 1066 is not intended to limit the maximum outlet temperature at point of use.

10 See Section 315.0 for trenching, excavation, and backfilling requirements when installing building drains and sewers. Engineers may wish to consult ASTM D 2321 when preparing plans and specifications for sewer mains or specific projects.

Abbreviations in Table 14-1

AHAM	Association of Home Appliance Manufacturers, 1111 19th Street, N.W., Suite 402, Washington DC 20036.
ANSI	American National Standards Institute, Inc., 25 W. 42nd Street, 4th floor, New York, NY 10036.
ARI	Air Conditioning and Refrigeration Institute, 400 N. Fairfax Drive, Suite 200, Arlington, VA 22203.
ASCE	The American Society of Civil Engineers, 1801 Alexander Bell Drive, Reston, VA 20191.
ASHRAE	The American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc., 1791 Tullie Circle, NE, Atlanta, GA 30329-2305.
ASME	The American Society of Mechanical Engineering, Three Park Avenue, New York, NY 10016.
ASSE	American Society of Sanitary Engineering, 901 Canterbury, Suite A, Westlake, Ohio 44145.
ASTM	American Society of Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.
AWS	American Welding Society, 550 NW LeJuene Road, Miami, FL 33126.
CISPI	Cast Iron Soil Pipe Institute, 5959 Shallowford Road, Suite 419, Chattanooga, TN 37421.
CSA	Canadian Standards Association, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, L4W5N6, Canada.
(D) or [D]	Discontinued
e1	An editorial change since the last revision or reapproval.
FS	Federal Specifications, Federal Supply Service, Standards Division, General Services Administration, 7th and D Streets, Washington, DC 20407.
IAPMO	International Association of Plumbing and Mechanical Officials, 5001 E. Philadelphia Street, Ontario, CA 91761.
ICC	International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041.

ISO	International Organization for Standardization, 1 Rue de Varebre, Casa Postale 56, CH-1211 Geneva 20, Switzerland.
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry, 127 Park Street, N.E., Vienna, VA 22180.
NFPA	National Fire Protection Association, P.O. Box 9101, 1 Batterymarch Park, Quincy, MA 02269-9101.
NSF	NSF International, 789 Dixboro Road, Ann Arbor, MI 48113-0140
NSPI	National Spa and Pool Institute, 2111 Eisenhower Avenue, Alexandria, VA 22314.
PDI	Plumbing and Drainage Institute, 800 Turnpike Street, Suite 300, North Andover, MA 01845.
UL	Underwriters' Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062.
WQA	Water Quality Association, 4151 Naperville Road, Lisle, IL 60532-1088.

K 6 Disposal Fields.

(A) Distribution lines shall be constructed of clay tile laid with open joints, perforated clay pipe, perforated bituminous fiber pipe, perforated high-density polyethylene pipe, perforated ABS pipe, perforated PVC pipe, or other approved materials, provided that sufficient openings are available for distribution of the effluent into the trench area.

(B) Before placing filter material or drain lines in a prepared excavation, all smeared or compacted surfaces shall be removed from trenches by raking to a depth of one (1) inch (25.4 mm) and the loose material removed. Clean stone, gravel, slag, or similar filter material acceptable to the Authority Having Jurisdiction, varying in size from three fourths (3/4) inch to two and one-half (2-1/2) inches (19.1 mm to 64 mm), shall be placed in the trench to the depth and grade required by this section. Drain pipe shall be placed on filter material in an approved manner. The drain lines shall then be covered with filter material to the minimum depth required by this section, and this material covered with untreated building paper, straw, or similar porous material to prevent closure of voids with earth backfill. No earth backfill shall be placed over the filter material cover until after inspection and acceptance.

> **Exception:** Listed or approved plastic leaching chambers may be used in lieu of pipe and filter material. Chamber installations shall follow the rules for disposal fields, where applicable, and shall conform to manufacturer's installation instructions.

(C) A grade board staked in the trench to the depth of filter material shall be utilized when the distribution line is constructed with drain tile or a flexible pipe material that will not maintain alignment without continuous support.

	Minimum	Maximum
Number of drain lines per field	1	--
Length of each line	--	100 ft (30,480 mm)
Bottom width of trench	18 in (457 mm)	36 in (914 mm)
Spacing of lines, center-to-center	6 ft (1,829 mm)	--
Depth of earth cover of lines [preferred-18 in (457 mm)]	12 in (305 mm)	--
Grade of lines	Level	3 in/100 ft (25 mm/m)
Filter material under drain lines	12 in (305 mm)	--
Filter material over drain lines	2 in (51 mm)	--

(D) When seepage pits are used in combination with disposal fields, the filter material in the trenches shall terminate at least five (5) feet (1,524 mm) from the pit excavation, and the line extending from such points to the seepage pit shall be approved pipe with watertight joints.

(E) Where two (2) or more drain lines are installed, an approved distribution box of sufficient size to receive lateral lines shall be installed at the head of each disposal field. The inverts of all outlets shall be level, and the invert of the inlet shall be at least one (1) inch (25.4 mm) above the outlets. Distribution boxes shall be designed to ensure equal flow and shall be installed on a level concrete slab in natural or compacted soil.

(F) All laterals from a distribution box to the disposal field shall be approved pipe with watertight joints. Multiple disposal field laterals, wherever practicable, shall be of uniform length.

(G) Connections between a septic tank and a distribution box shall be laid with approved pipe with watertight joints on natural ground or compacted fill.

(H) When the quantity of sewage exceeds the amount that can be disposed in five hundred (500) lineal feet (152.4 m) of leach line, a dosing tank shall be used. Dosing tanks shall be equipped with an automatic siphon or pump that discharges the tank once every three (3) or four (4) hours. The tank shall have a capacity equal to sixty (60) to seventy-five (75) percent of the interior capacity of the pipe to be dosed at one time. Where the total length of pipe exceeds one thousand (1,000) lineal feet (304.8 m), the dosing tank shall be provided with two (2) siphons or pumps dosing alternately and each serving one-half (1/2) of the leach field.

(I) Disposal fields shall be constructed as follows: Minimum spacing between trenches or leaching beds shall be four (4) feet (1,219 mm) plus two (2) feet (610 mm) for each additional foot (305 mm) of depth in excess of one (1) foot (305 mm) below the bottom of the drain line. Distribution drain lines in leaching beds shall not be more than six (6) feet (1,829 mm) apart on centers, and no part of the perimeter of the leaching bed shall be more than three (3) feet (914 mm) from a distribution drain line. Disposal fields, trenches, and leaching beds shall not be paved over or covered by concrete or any material that can reduce or inhibit any possible evaporation of sewer effluent.

(J) When necessary on sloping ground to prevent excessive line slope, leach lines or leach beds shall be stepped. The lines between each horizontal section shall be made with watertight joints and shall be designed so each horizontal leaching trench or bed shall be utilized to the maximum capacity before the effluent shall pass to the next lower leach line or bed. The lines between each horizontal leaching section shall be made with approved watertight joints and installed on natural or unfilled ground.

K 7 Seepage Pits.

(A) The capacity of seepage pits shall be based on the quantity of liquid waste discharging thereinto and on the character and porosity of the surrounding soil, and shall conform to Section K 3 of this appendix.

(B) Multiple seepage pit installations shall be served through an approved distribution box or be connected in series by means of a watertight connection laid on undistributed or compacted soil; the outlet from the pit shall have an approved vented leg fitting extending at least twelve (12) inches (305 mm) below the inlet fitting.

(C) Each seepage pit shall be circular in shape and shall have an excavated diameter of not less than four (4) feet (1,219 mm). Each such pit shall be lined with approved-type whole new hard-burned clay brick, concrete brick, concrete circular-type cesspool blocks, or other approved materials. Approval shall be obtained prior to construction for any pit having an excavated diameter greater than six (6) feet (1,829 mm).

(D) The lining in every seepage pit shall be laid on a firm foundation. Lining materials shall be placed tight together and laid with joints staggered. Except in the case of approved-type precast concrete circular sections, no brick or block shall be greater in height than its width, and shall be laid flat to form at least a four (4) inch (102 mm) wall. Brick or block greater than twelve (12) inches (305 mm) in length shall have chamfered matching ends and be scored to provide for seepage. Excavation voids behind the brick, block, or concrete liner shall have a minimum of six (6) inches (152 mm) of clean three-fourths (3/4) inch (19.1 mm) gravel or rock.

(E) All brick or block used in seepage pit construction shall have a minimum compressive strength of twenty-five hundred (2,500) pounds per square inch (17,237 kPa).

(F) Each seepage pit shall have a minimum sidewall (not including the arch) of ten (10) feet (3,048 mm) below the inlet.

(G) The arch or dome of any seepage pit may be constructed in one of three ways:

(1) Approved-type hard-burned clay brick or solid concrete brick or block laid in cement mortar.
(2) Approved brick or block laid dry.

In both of the above methods, an approved cement mortar covering of at least two (2) inches (51 mm) in thickness shall be applied, said covering to extend at least six (6) inches (152 mm) beyond the sidewalls of the pit.

(3) Approved-type one or two-piece reinforced concrete slab of twenty-five hundred (2,500) pounds per square inch (17237 kPa) minimum compressive strength, not less than five (5) inches (127 mm) thick and designed to support an earth load of not less than four hundred (400) pounds per square foot (19.2 kPa). Each such cover shall be provided with a nine (9) inch (229 mm) minimum inspection hole with plug cover and shall be coated on the underside with an approved bituminous or other nonpermeable protective compound.

(H) The top of the arch or cover must be at least eighteen (18) inches (457 mm) but not more than four (4) feet (1219 mm) below the surface of the ground.

(I) An approved vented inlet fitting shall be provided in every seepage pit so arranged as to prevent the inflow from damaging the sidewall.

Exception: When using a one- or two-piece concrete slab cover inlet, fitting may be a one- fourth (1/4) bend fitting discharging through an opening in the top of the slab cover. On multiple seepage pit installations, the outlet fittings shall be per Section K 7(B) of this appendix.

K 8 Cesspools.

(A) A cesspool shall be considered only as a temporary expedient pending the construction of a public sewer; as an overflow facility when when installed in conjunction with an existing cesspool; or as a means of sewage disposal for limited, minor, or temporary uses, when first approved by the Authority Having Jurisdiction.

(B) Where it is established that a public sewer system will be available in less than two (2) years and soil and groundwater conditions are favorable to cesspool disposal, cesspools without septic tanks may be installed for single-family dwellings or for other limited uses when first approved by the Authority Having Jurisdiction.

(C) Each cesspool, when permitted, shall conform to the construction requirements set forth in Section K 7 of this appendix for seepage pits and shall have a minimum sidewall (not including arch) of twenty (20) feet (6,096 mm) below the inlet, provided, however, that when a strata of gravel or equally pervious material of four (4) feet (1,219 mm) in thickness is found, the depth of such sidewall need not be more than ten (10) feet (3,048 mm) below the inlet.

(D) When overflow cesspools or seepage pits are added to existing installations, the effluent shall leave the existing pit through an approved vented leg extending at least twelve (12) inches (305 mm) downward into such existing pit and having its outlet flow line at least six (6) inches (152 mm) below the inlet. All pipe between pits shall be laid with approved watertight joints.

Grease and Garbage, Commercial Kitchens

Number of meals per peak hour	X	Waste flow rate	X	Retention time	X	Storage factor	=	Interceptor size (liquid capacity)

Sand-Silt Oil, Auto Washers

Number of vehicles per hour	X	Waste flow rate	X	Retention time	X	Storage factor	=	Interceptor size (liquid capacity)

Silt-Lint Grease, Laundries, Laundromats

Number of machines	X	2 cycles per hour	X	Waste flow rate	X	Retention time	X	Storage factor	=	Interceptor size (liquid capacity)

Waste Flow Rate
See Table K-3 of this appendix for estimated flow rates.

Retention Times

Commercial kitchen waste:	
Dishwasher and/or disposal	2.5 hours
Single service kitchen:	
Single serving with disposal	1.5 hours
Sand-silt oil	2.0 hours
Lint-silt (laundry)	2.0 hours

Storage Factors

Fully equipped commercial kitchen	8 h. operation: 1 16 h. operation: 2 24 h. operation: 3
Single service kitchen	1.5
Auto washers	Self-serve: 1.5 Employee operated: 2
Laundries, Laundromats	1.5 (allows for rock filter)

K 9 Commercial or Industrial Special Liquid-Waste Disposal.

(A) When liquid wastes contain excessive amounts of grease, garbage, flammable wastes, sand, or other ingredients that may affect the operation of a private sewage disposal system, an interceptor for such wastes shall be installed.

(B) Installation of such interceptors shall comply with Section 1009.0 of this code, and their location shall be in accordance with **Table K-1** of this appendix.

(C) A sampling box shall be installed when required by the Authority Having Jurisdiction.

(D) Interceptors shall be of approved design and be of not less than two (2) compartments. Structural requirements shall be in compliance with the applicable subparts of Section K 5 of this appendix.

(E) Interceptors shall be located as close to the source as possible and be accessible for servicing. All necessary manholes for servicing shall be at grade level and be gastight.

(F) Waste discharge from interceptors may be connected to a septic tank or other primary system or be disposed into a separate disposal system.

(G) Recommended Design Criteria. (Formula may be adapted to other types of occupancies with similar wastes.) See charts on this page.

K 10 Inspection and Testing.

(A) Inspection.

(1) Applicable provision of Section 103.5 of this code and this appendix shall be complied with. Plans may be required per Section 101.3 of this code.
(2) System components shall be properly identified as to manufacturer. Septic tanks or other primary systems shall have the rated capacity permanently marked on the unit.
(3) Septic tanks or other primary systems shall be installed on dry, level, well-compacted soil.

(4) If design is predicated on soil tests, the system shall be installed at the same location and depth as the tested area.

(B) Testing.

(1) Septic tanks or other primary components shall be filled with water to flow line prior to requesting inspection. All seams or joints shall be left exposed (except the bottom), and the tank shall remain watertight.

(2) A flow test shall be performed through the system to the point of effluent disposal. All lines and components shall be watertight. Capacities, required air space, and fittings shall be in accordance with the provisions set forth in this appendix.

K 11 Abandoned Sewers and Sewage Disposal Facilities.

(A) Every abandoned building (house) sewer, or part thereof, shall be plugged or capped in an approved manner within five (5) feet (1,524 mm) of the property line.

(B) Every cesspool, septic tank, and seepage pit that has been abandoned or has been discontinued otherwise from further use, or to which no waste or soil pipe from a plumbing fixture is connected, shall have the sewage removed there from and completely filled with the earth, sand, gravel, concrete, or other approved material.

(C) The top cover or arch over the cesspool, septic tank, or seepage pit shall be removed before filling, and the filling shall not extend above the top of the vertical portions of the sidewalls or above the level of any outlet pipe until inspection has been called and the cesspool, septic tank, or seepage pit has been inspected. After such inspection, the cesspool, septic tank, or seepage pit shall be filled to the level of the top of the ground.

(D) No person owning or controlling any cesspool, septic tank, or seepage pit on the premises of such person or in that portion of any public street, alley, or other public property abutting such premises shall fail, refuse, or neglect to comply with the provisions of this section or upon receipt of notice so to comply with the Authority Having Jurisdiction.

(E) Where disposal facilities are abandoned consequent to connecting any premises with the public sewer, the permittee making the connection shall fill all abandoned facilities as required by the Authority Having Jurisdiction within thirty (30) days from the time of connecting to the public sewer.

K 12 Drawings and Specifications.

The Authority Having Jurisdiction, Health Officer, or other department having jurisdiction may require any or all of the following information before a permit is issued for a private sewage disposal system or at any time during the construction thereof.

(A) Plot plan drawn to scale, completely dimensioned, showing direction and approximate slope of surface, location of all present or proposed retaining walls, drainage channels, water supply lines or wells, paved areas and structures on the plot, number of bedrooms or plumbing fixtures in each structure, and location of the private sewage disposal system with relation to lot lines and structures.

(B) Details of construction necessary to ensure compliance with the requirements of this appendix together with a full description of the complete installation including quality, kind, and grade of all materials, equipment, construction, workmanship, and methods of assembly and installation.

(C) A log of soil formations and groundwater levels as determined by test holes dug in close proximity to any proposed seepage pit or disposal field, together with a statement of water absorption characteristics of the soil at the proposed site, as determined by approved percolation tests.