required in applicable building regulations, the facilities shall be installed in accordance with those regulations.

[HCD 1/AC] *For specific requirements regarding accommodations for persons with physical disabilities, see California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable.*

407.8 Supply Fittings. The supply lines and fittings for every plumbing fixture shall be so installed as to prevent backflow as required in Chapter 6.

408.0 Water Closets.

408.1 Water closet bowls for public use shall be of the elongated type. In nurseries, schools, and other similar places where plumbing fixtures are provided for the use of children under six (6) years of age, water closets shall be of a size and height suitable for children's use. All water closets shall be equipped with seats as required below.

408.2 Water Closet Seats.

408.2.1 Water closet seats shall be of smooth, non-absorbent material.

408.2.2 All water closet seats, except those within dwelling units, shall be either of the open front type or have an automatic seat cover dispenser.

408.2.3 Water closet seats shall be properly sized for the water closet bowl type.

408.2.4 Seats for use in public buildings shall conform to the standard listed in Table 14-1.

409.0 Urinals.

Every water supply to a urinal shall be protected by an approved-type vacuum breaker or other approved backflow prevention device as described in Section 603.3.

410.0 Flushing Devices for Water Closets and Urinals.

410.1 Flushing Devices Required. Each water closet, urinal, clinic sink, or other plumbing fixture that depends on trap siphonage to discharge its waste contents shall be provided with a flushometer valve, flushometer tank, or flush tank designed and installed so as to supply water in sufficient quantity and rate of flow to flush the contents of the fixture to which it is connected, to cleanse the fixture, and to refill the fixture trap, without excessive water use. Flushing devices shall meet anti-siphon requirements required in Chapter 6.

410.2 Automatic Flushing Tanks. Tanks flushing more than one (1) urinal shall be automatic in operation and of sufficient capacity to provide the necessary volume to flush and properly cleanse all urinals simultaneously. Automatically controlled flushometer valves may be substituted for flush tanks.

410.3 Flushometer Valves. No manually controlled flushometer valve shall be used to flush more than one (1) urinal, and each such urinal flushometer valve shall be an approved, self-closing type discharging a predetermined quantity of water. Flushometers shall be installed so that they will be accessible for repair. Flushometer valves shall not be used where the water pressure is insufficient to properly operate them. When the valve is operated, it shall complete the cycle of operation automatically, opening fully and closing positively under the line water pressure. Each flushometer shall be provided with a means for regulating the flow through it.

410.4 Water Supply for Flush Tanks. An adequate quantity of water shall be provided to flush and clean the fixture served. The water supply for flushing tanks and flushometer tanks equipped for manual flushing shall be controlled by a float valve or other automatic device designed to refill the tank after each discharge and to completely shut off the water flow to the tank when the tank is filled to operational capacity. Provision shall be made to automatically supply water to the fixture so as to refill the trap seal after each flushing. The water supply to flush tanks equipped for automatic flushing shall be controlled by a suitable timing device.

410.5 Overflows in Flush Tanks. Flush tanks shall be provided with overflows discharging into the water closet or urinal connected thereto. Overflows supplied as original parts with the fixture shall be of sufficient size to prevent tank flooding at the maximum rate at which the tank is supplied with water under normal operating conditions and when installed per manufacturer's instructions.

411.0 Floor Drains and Shower Stalls.

411.1 Floor drains shall be considered plumbing fixtures, and each such drain shall be provided with an approved-type strainer having a waterway equivalent to the area of the tailpiece. Floor drains, floor receptors, and shower drains shall be of an approved type, suitably flanged to provide a watertight joint in the floor.

411.2 Location of Floor Drains. Floor drains shall be installed in the following areas:

411.2.1 Toilet rooms containing two (2) or more water closets or a combination of one (1) water closet and one (1) urinal, except in a dwelling unit.

411.2.2 Commercial kitchens.

411.2.3 Laundry rooms in commercial buildings and common laundry facilities in multi-family dwelling buildings.

411.3 Food Storage Areas. If drains are provided in storerooms, walk-in freezers, walk-in coolers, refrigerated equipment, or other locations where food is stored, such drains shall have indirect waste piping. Separate waste pipes shall be run from each food storage area, each with an indirect connection to the building sanitary drainage system. Traps shall be provided if required under Section 801.2.2 of this code and shall be vented.

Indirect drains may be located in freezers or other spaces where freezing temperatures are maintained, provided that traps, when supplied, are located where the seal will not freeze. Otherwise, the floor of the freezer shall be sloped to a floor drain located outside of the storage compartment.

411.4 Floor Slope. Floors shall be sloped to floor drains.

411.5 Shower receptors are plumbing fixtures and shall conform to the general requirements contained in Section 401.0. Each such shower receptor shall be constructed of vitrified china or earthenware, ceramic tile, porcelain-enameled metal, or of such other material as may be acceptable to the Authority Having Jurisdiction. No shower receptor shall be installed unless it conforms to acceptable standards as referenced in Table 14-1 or until a specification or a prototype or both of such receptor has first been submitted to and approval obtained from the Authority Having Jurisdiction.

411.6 Each shower receptor shall be an approved type and be so constructed as to have a finished dam, curb, or threshold that is at least one (1) inch (25.4 mm) lower than the sides and back of such receptor. In no case shall any dam or threshold be less than two (2) inches (51 mm) or more than nine (9) inches (229 mm) in depth when measured from the top of the dam or threshold to the top of the drain. Each such receptor shall be provided with an integral nailing flange to be located where the receptor meets the vertical surface of the finished interior of the shower compartment. The flange shall be watertight and extend vertically a minimum of one (1) inch (25.4 mm) above the top of the sides of the receptor. The finished floor of the receptor shall slope uniformly from the sides toward the drain not less than one-quarter (1/4) inch per foot (20.9 mm/m), nor more than one-half (1/2) inch per foot (41.8 mm/m). Thresholds shall be of sufficient width to accommodate a minimum twenty-two (22) inch (559 mm) door. Shower doors shall open so as to maintain a minimum twenty-two (22) inch (559 mm) unobstructed opening for egress.

Exception: Showers that are designed to comply with the accessibility standards listed in Table 14-1. ***[HCD 1/AC]*** *Specific requirements regarding accommodations for persons with physical disabilities are contained in California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable. Table 14-1 does not contain the correct accessibility standards for use in California.*

411.7 All shower compartments, regardless of shape, shall have a minimum finished interior of one thousand twenty-four (1,024) square inches (0.66 m²) and shall also be capable of encompassing a thirty (30) inch (750 mm) circle. The minimum required area and dimensions shall be measured at a height equal to the top of the threshold and at a point tangent to its centerline. The minimum area and dimensions shall be maintained to a point seventy (70) inches (1778 mm) above the shower drain outlet with no protrusions other than the fixture valve or valves, shower head, soap dishes, shelves, and safety grab bars or rails. Fold-down seats in accessible shower stalls shall be permitted to protrude into the thirty (30) inch (750 mm) circle.

Exception No. 1: Showers that are designed to comply with *Chapter 11A or 11B of the California Building Code.*

Exception No. 2: The minimum required area and dimension shall not apply where an existing bathtub is replaced by a shower receptor having minimum overall dimensions of 30 inches (750 mm) in width and 60 inches (1,500 mm) in length.

Exception No. 3: [HCD 1/AC] *Specific requirements regarding accommodations for persons with physical disabilities are contained in California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable. ICC/ANSI A117.1 does not contain the correct accessibility standards for use in California.*

411.8 When the construction of on-site built-up shower receptors is permitted by the Authority Having Jurisdiction, one of the following means shall be employed:

(1) Shower receptors built directly on the ground:

Shower receptors built directly on the ground shall be watertight and shall be constructed from approved-type dense, nonabsorbent and noncorrosive materials. Each such receptor shall be adequately reinforced, shall be provided with an approved flanged floor drain designed to make a watertight joint in the floor, and shall have smooth, impervious, and durable surfaces.

(2) Shower receptors built aboveground:

When shower receptors are built above-ground, the subfloor and rough side of walls to a height of not less than three (3) inches (76 mm) above the top of the finished

dam or threshold shall be first lined with sheet plastic,* lead,* or copper,* or shall be lined with other durable and watertight materials.

All lining materials shall be pitched one-quarter (1/4) inch per foot (20.9 mm/m) to weep holes in the subdrain of a smooth and solidly formed subbase. All such lining materials shall extend upward on the rough jambs of the shower opening to a point no less than three (3) inches (76 mm) above the top of the finished dam or threshold and shall extend outward over the top of the rough threshold and be turned over and fastened on the outside face of both the rough threshold and the jambs.

Nonmetallic shower subpans or linings may be built up on the job site of not less than three (3) layers of standard, grade fifteen (15) pound (6.8 kg) asphalt-impregnated roofing felt. The bottom layer shall be fitted to the formed subbase and each succeeding layer thoroughly hot-mopped to that below. All corners shall be carefully fitted and shall be made strong and watertight by folding or lapping, and each corner shall be reinforced with suitable webbing hot-mopped in place. All folds, laps, and reinforcing webbing shall extend at least four (4) inches (102 mm) in all directions from the corner, and all webbing shall be of approved type and mesh, producing a tensile strength of not less than fifty (50) psi (344.5 kPa) in either direction. Nonmetallic shower subpans or linings may also consist of multilayers of other approved equivalent materials suitably reinforced and carefully fitted in place on the job site as elsewhere required in this section.

Linings shall be properly recessed and fastened to approved backing so as not to occupy the space required for the wall covering and shall not be nailed or perforated at any point that may be less than one (1) inch (25.4 mm) above the finished dam or threshold. An approved-type subdrain shall be installed with every shower subpan or lining. Each such subdrain shall be of the type that sets flush with the subbase and shall be equipped with a clamping ring or other device to make a tight connection between the lining and the drain. The subdrain shall have weep holes into the waste line. The weep holes located in the subdrain clamping ring shall be protected from clogging.

All shower lining materials shall conform to approved standards acceptable to the Authority Having Jurisdiction.

*Lead and copper subpans or linings shall be insulated from all conducting substances other than their connecting drain by fifteen (15) pound (6.8 kg) asphalt felt or its equivalent, and no lead pan or liner shall be constructed of material weighing less than four (4) pounds per square foot (19.5 kg/m²). Copper pans or liners shall be at least No. 24 B & S Gauge (0.02 inches) (0.5 mm). Joints in lead pans or liners shall be burned. Joints in copper pans or liners shall be soldered or brazed. Plastic pans shall not be coated with asphalt-based materials.

411.8.1 Tests for Shower Receptors. Shower receptors shall be tested for watertightness by filling with water to the level of the rough threshold. The test plug shall be so placed that both upper and under sides of the subpan shall be subjected to the test at the point where it is clamped to the drain.

411.9 Floors of public shower rooms shall have a nonskid surface and shall be drained in such a manner that wastewater from one bather will not pass over areas occupied by other bathers. Gutters in public or gang shower rooms shall have rounded corners for easy cleaning and shall be sloped not less than two (2) percent toward drains. Drains in gutters shall be spaced not more than eight (8) feet (2438 mm) from sidewalls nor more than sixteen (16) feet (4879 mm) apart.

411.10 Location of Valves and Heads. Control valves and showerheads shall be located on the sidewall of shower compartments or be otherwise arranged so that the showerhead does not discharge directly at the entrance to the compartment and the bather can adjust the valves prior to stepping into the shower spray.

411.11 Water Supply Riser. Every water supply riser from the shower valve to the showerhead outlet, whether exposed or not, shall be securely attached to the structure.

412.0 Minimum Number of Required Fixtures.

412.1 Fixture Count. Plumbing fixtures shall be provided for the type of building occupancy and in the minimum number shown in Table 4-1.

412.1.1 [DSA-AC] *Effective January 1, 1990, in new construction and those existing facilities which occupancy type are listed in Tables 4-1 and 4-4 for public use, which apply for permit to undertake construction, structural alterations, repairs or improvement which exceed 50 percent of the square footage of the entire facility, shall install water closets, urinals, lavatories and drinking fountains as stipulated in Tables 4-1 and 4-4 for public use. Community and/or municipal parks with a bleacher capacity not exceeding 500 seats shall be exempt from the*