

**CALIFORNIA
ADOPTED THE FOLLOWING:**

FINAL EXPRESS TERMS
FOR STATE AGENCY APPROVED CHANGES TO THE
2015 UNIFORM MECHANICAL AND PLUMBING CODES (UMC) & (UPC)
FOR
THE 2016 CALIFORNIA MECHANICAL AND PLUMBING CODES (CMC) & (CPC)
CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 24, PARTS 4 & 5 RESPECTIVELY

- THE CALIFORNIA BUILDING STANDARDS COMMISSION (BSC)
- THE DIVISION OF THE STATE ARCHITECT – STRUCTURAL SAFETY (DSA/SS)
- THE DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPEMENT (HCD)
- THE OFFICE OF STATE WIDE HEALTH PLANNING AND DEVELOPMENT (OSHPD)
- THE OFFICE OF THE STATE FIRE MARSHAL (SFM)

Disclaimer: All Final Express Terms for the above mentioned agencies are available and were obtained from the Building Standards Commission at the following link:

<http://www.bsc.ca.gov/Rulemaking/adoptcycle/2015CodeAdoptionCycle/ApprovedStandardsDecember2015.aspx><http://www.bsc.ca.gov/Rulemaking/adoptcycle/2015CodeAdoptionCycle/ApprovedStandardsJanuary2016.aspx>

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<http://www.bsc.ca.gov/Rulemaking/adoptcycle/2015CodeAdoptionCycle/ApprovedStandardsJanuary2016.aspx>

**FINAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
CALIFORNIA BUILDING STANDARDS COMMISSION (CBSC)**

**REGARDING PROPOSED ADOPTION OF THE 2015
UNIFORM PLUMBING CODE (UPC) FOR THE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5**

(The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific. (PART 1 – ADMINISTRATIVE CODE))

LEGEND FOR EXPRESS TERMS

1. Existing California amendments or code language being modified are in italics when they appear in the model code text: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears underlined and in italics.
3. Repealed text: All such language appears in ~~strikeout~~.

EXPRESS TERMS

The Building Standards Commission (BSC) proposes to adopt the 2015 edition of the Uniform Plumbing Code (UPC) for codification and effectiveness into the 2016 edition of the California Plumbing Code (CPC) as presented on the following pages, including any necessary amendments. BSC further proposes to:

- Repeal the 2012 edition of the UPC and the 2013 CPC;
- Repeal amendments to the model code that are no longer necessary, repeal or amend building standards that are not addressed by a model code;
- Relocate or codify existing adopted and necessary amendments to the model code into the format of the model code proposed for adoption, the action of which has no regulatory effect; adopt new necessary amendments to the model code proposed for adoption; and/or
- Adopt new building standards that are not addressed by the model code proposed for adoption

PROPOSED REPEALS, ADOPTIONS AND NEW AMENDMENTS

ITEM 1. BSC proposes to bring forward existing California amendments in the *preface* from the 2013 California Plumbing Code for adoption into the 2016 edition of the California Plumbing Code with additional amendments as follows:

PREFACE

This document is the 5th of ~~twelve~~ thirteen parts of the official triennial compilation and publication of the

adoptions, amendments and repeal of administrative regulations to *California Code of Regulations, Title 24*, also referred to as the *California Building Standards Code*. Part 5 is known as the *California Plumbing Code* and incorporates, by adoption, the 2012 2015 edition of the *Uniform Plumbing Code* of the International Association of Plumbing and Mechanical Officials with the California amendments.

The *California Building Standards Code* is published in its entirety every ...

...

ACKNOWLEDGEMENTS

The ~~2013~~ 2016 California Building Standards Code (Code) was developed through the outstanding collaborative efforts of the Department of Housing and Community Development, the Division of the State Architect, the Office of the State Fire Marshal, the Office of Statewide Health Planning and Development, the California Energy Commission, the California Department of Public Health, the California State Lands Commission, the Board of State and Community Corrections, and the California Building Standards Commission (Commission).

This collaborative effort included the assistance of the Commission's Code Advisory Committees and many other volunteers who worked tirelessly to assist the Commission in the production of this Code.

Governor Edmund G. Brown Jr.

Members of the Building Standards Commission

Secretary ~~Anna Caballero~~ Marybel Batjer – Chair
~~James Barthman~~ Steven Winkel – Vice-Chair

<i>Stephen Jensen <u>Elley Klausbruckner</u></i>	<i>Rose Conroy <u>Cheryl Roberts</u></i>
<i>Randy Twist <u>Larry Booth</u></i>	<i>Sheila Lee-David <u>Malcolm Carson</u></i>
<i>Richard Sawhill</i>	<i>Richard Sierra</i>
<i>Kent Sasaki</i>	<i>Steven Winkel</i>
<i>Raj Patel</i>	<i>Erick Mikiten</i>
<i><u>Pedro Santillan</u></i>	

Jim McGowan – Executive Director
Michael L. Nearman – Deputy Executive Director

...

Legends of Abbreviations of Adopting State Agencies

BSC	California Building Standards Commission (see Section 1.2.0)
<u>BSC-CG</u>	<u>California Building Standards Commission – Green Code (see Section 1.3.0)</u>
SFM ...	

Notation:

Authority: Health and Safety Code §18934.5, 18949.6

References: Health and Safety Code §18934.5, 18949.6

ITEM 2. BSC proposes to bring forward existing California amendments in Chapter 1, Division I through Chapter 1, Division II from the 2013 California Plumbing Code for adoption into the 2016 edition of the California Plumbing Code with additional amendments as follows:

**CHAPTER 1
CALIFORNIA ADMINISTRATION
DIVISION I**

1.1.0 General

1.1.1 Title. *These regulations shall be known as the California Plumbing Code, may be cited as such and will be referred to herein as "this code." The California Plumbing Code is Part 5 of ~~twelve~~ thirteen parts of the official compilation and publication of the adoptions, amendment, and repeal of building regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the ~~2012~~ 2015 Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials with necessary California amendments.*

1.1.2 Purpose. *The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation, and energy conservation; safety to life and property from fire and other hazards attributed to the built environment; and to provide safety to fire fighters and emergency responders during emergency operations.*

1.1.3 Scope. *The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout the State of California.*

1.1.3.1 Nonstate-regulated buildings, structures, and applications. *Except as modified by local ordinance pursuant to Section 1.1.8, the following standards in the California Code of Regulations, Title 24, Parts 2, 2.5, 3, 4, 5, 6, 9,10 and 11 shall apply to all occupancies and applications not regulated by a state agency.*

1.1.3.2 State-Regulated Buildings, Structures, and Applications. *The model code, state amendments to the model code, and/or state amendments where there are no relevant model code provisions, shall apply to the following buildings, structures, and applications regulated by state agencies as specified in Sections 1.2.0 through 1.14.0, except where modified by local ordinance pursuant to Section 1.1.8. When adopted by a state agency, the provisions of this code shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by the state legislature.*

Note: See Preface to distinguish the model-code provisions from the California provisions.

1. *State-owned buildings, including buildings constructed by the Trustees of the California State University, and to the extent permitted by California laws, buildings designed and constructed by the Regents of the University of California, and regulated by the Building Standards Commission. See Section 1.2.0 for additional scope provisions.*

- ~~2. Section 1.3.0 is reserved for the Local detention facilities regulated by the Corrections Standards Authority Board of State and Community Corrections. See Section 1.3 for additional scope provisions.~~
- ~~3. Section 1.4.0 is reserved for the Department of Consumer Affairs. Barbering, cosmetology or electrolysis establishments, acupuncture offices, pharmacies, veterinary facilities, and structural pest control locations regulated by the Department of Consumer Affairs. See Section 1.4 for additional scope provisions.~~
- ~~4. Section 1.5.0 is reserved Reserved for the California Energy Commission. See Section 1.5 for additional scope provisions.~~
- ~~5. Section 1.6.0 is reserved for the Dairies and places of meat inspection regulated by the Department of Food and Agriculture. See Section 1.6 for additional scope provisions.~~
6. Organized camps, laboratory animal quarters, public swimming pools, radiation protection, commissaries serving mobile food preparation vehicles, and wild animal quarantine facilities regulated by the Department of Public Health. See Section 1.7 for additional scope provisions.
7. Hotels, motels, lodging houses, ~~apartment houses~~ apartments, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing, and other types of dwellings containing sleeping accommodations with or without common toilets or cooking facilities. See Section 1.8.2.1.1 for additional scope provisions.
8. Accommodations for persons with disabilities in buildings containing newly constructed covered multifamily dwellings, new common use spaces serving existing covered multifamily dwellings, additions to existing buildings where the addition alone meets the definition of "COVERED MULTIFAMILY DWELLINGS," and new common-use spaces areas serving new covered multifamily dwellings which are regulated by the Department of Housing and Community Development. See Section 1.8.2.1.2 for additional scope provisions.
9. Permanent buildings and permanent accessory buildings or structures constructed within mobilehome parks and special occupancy parks regulated by the Department of Housing and Community Development. See Section 1.8.2.1.3 for additional scope provisions.
10. Accommodations for persons with disabilities regulated by the Division of the State Architect. See Section 1.9.1 for additional scope provisions.
11. Public elementary and secondary schools, community college buildings, and state-owned or state-leased essential service buildings regulated by the Division of the State Architect. See Section 1.9.2 for additional scope provisions.
12. Reserved for the State Historical Building Safety Board with the Division of the State Architect. See Section 1.9.3 for additional scope provisions.
13. General acute care hospitals, acute psychiatric hospitals, skilled nursing and/or intermediate care facilities, clinics licensed by the Department of Public Health and correctional treatment centers regulated by the Office of Statewide Health Planning and Development. See Section 1.10 for additional scope provisions.

14. Applications regulated by the Office of State Fire Marshal include but are not limited to the following in accordance with Section 1.11:

1. Buildings or structures used or intended for use as an:

1.1. Asylum, jail, prison.

1.2. Mental hospital, hospital, home for the elderly, children's nursery, children's home or institution, school or any similar occupancy of any capacity.

1.3. Theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building, or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education.

1.4. Small family day care homes, large family day-care homes, residential facilities and residential facilities for the elderly, residential care facilities.

1.5. State institutions or other state-owned or state-occupied buildings.

1.6. High rise structures.

1.7. Motion picture production studios.

1.8. Organized camps.

1.9. Residential structures.

2. Tents, awnings or other fabric enclosures used in connection with any occupancy.

3. Fire alarm devices, equipment and systems in connection with any occupancy.

4. Hazardous materials, flammable and combustible liquids.

5. Public school automatic fire detection, alarm, and sprinkler systems.

6. Wildland-urban interface fire areas.

15. Section 1.12.0 is reserved for Public libraries constructed and renovated using funds from the California Library Construction and Renovation Bond Act of 1988 and regulated by the State Librarian. See Section 1.12 for additional scope provisions.

16. Section 1.13.0 is reserved for the Graywater systems regulated by the Department of Water Resources. See Section 1.13 for additional scope provisions.

17. For applications listed in Section 1.9.1 regulated by the Division of the State Architect – Access Compliance, outdoor environments and uses shall be classified according to accessibility uses described in Chapter 11A, 11B and 44C.

18. Section 1.14.0 is reserved for Marine Oil Terminals regulated by the California State Lands Commission. See Section 1.14 for additional scope provisions.

1.1.4 Appendices. Provisions contained in the appendices of this code shall not apply unless specifically adopted by a state agency or adopted by a local enforcing agency in compliance with Health and Safety Code Section 18901 et. seq. for Building Standards Law, Health and Safety Code Section 17950 for State

Housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts. See Section 1.1.8 of this code.

1.1.5 Referenced codes. *The codes, standards and publications adopted and set forth in this code, including other codes, standards and publications referred to therein are, by title and date of publication, hereby adopted as standard reference documents of this code. When this code does not specifically cover any subject related to building design and construction, recognized architectural or engineering practices shall be employed. The National Fire Codes, standards, and the Fire Protection Handbook of the National Fire Protection Association are permitted to be used as authoritative guides in determining recognized fire prevention engineering practices.*

1.1.6 Nonbuilding standards, orders and regulations. *Requirements contained in the Uniform Mechanical Code or in any other referenced standard, code or document, which are not building standards as defined in Health and Safety Code Section 18909, shall not be construed as part of the provisions of this code. For nonbuilding standards, orders, and regulations, see other titles of the California Code of Regulations.*

1.1.7 Order of precedence and use.

1.1.7.1 Differences. *In the event of any differences between these building standards and the standard reference documents, the text of these building standards shall govern.*

1.1.7.2 Specific provisions. *Where a specific provision varies from a general provision, the specific provision shall apply.*

1.1.7.3 Conflicts. *When the requirements of this code conflict with the requirements of any other part of the California Building Standards Code, Title 24, the most restrictive requirements shall prevail.*

Exception: *Detached one-and two-family dwellings, efficiency dwelling units, lodging houses, live/work units, townhouses not more than three stories above grade plane with a separate means of egress, and their accessory structures, shall not be required to comply with the California Residential Code if constructed in accordance with the California Building Code.*

1.1.8 City, county, or city and county amendments, additions or deletions.

The provisions of this code do not limit the authority of city, county, or city and county governments to establish more restrictive and reasonably necessary differences to the provisions contained in this code pursuant to complying with Section 1.1.8.1. The effective date of amendments, additions, or deletions to this code by a city, county, or city and county filed pursuant to Section 1.1.8.1 shall be the date filed. However, in no case shall the amendments, additions or deletions to this code be effective any sooner than the effective date of this code.

Local modifications shall comply with Health and Safety Code Section 18941.5 for Building Standards Law, Health and Safety Code Section 17958 for State Housing Law or Health and Safety Code Section 13869.7 for Fire Protection Districts.

1.1.8.1 Findings and filings.

1. *The city, county, or city and county shall make express findings for each amendment, addition or deletion based upon climatic, topographical, or geological conditions.*

Exception: *Hazardous building ordinances and programs mitigating unreinforced*

masonry buildings.

2. The city, county, or city and county shall file the amendments, additions, or deletions expressly marked and identified as to the applicable findings. Cities, counties, cities and counties, and fire departments shall file the amendments, additions or deletions, and the findings with the California Building Standards Commission at 2525 Natomas Park Drive, Suite 130, Sacramento, CA 95833.
3. Findings prepared by fire protection districts shall be ratified by the local city, county, or city and county and filed with the California Department of Housing and Community Development, Division of Codes and Standards, P.O. Box 1407, Sacramento, CA 95812-1407 or ~~1800 3rd Street, Room 260, Sacramento, CA 95814~~ 2020 W. El Camino Avenue, Suite 250, Sacramento, CA 95833-1829.

1.1.8.2 Locally adopted energy standards – California Energy Code, Part 6.

In addition to the provisions of Section 89.101.8.1 of this Part, the provisions of this section applies to cities, counties, and city and county amending adopted energy standards affecting buildings and structures subject to the California Energy Code, Part 6.

Applicable provisions of Public Resources Code Section 25402.1 and applicable provisions of Chapter 10 of the California Administrative Code, Part 1 apply to local amendment of energy standards adopted by the California Energy Commission.

1.1.9 Effective date of this code. Only those standards approved by the California Building Standards Commission that are effective at the time an application for building permit is submitted shall apply to the plans and specifications for, and to the construction performed under, that permit. For the effective dates of the provisions contained in this code, see the History Note page of this code.

1.1.10 Availability of codes. At least one complete copy each of Titles 8, 19, 20, 24, and 25 with all revisions shall be maintained in the office of the building official responsible for the administration and enforcement of this code. Each state department concerned and each city, county or city and county shall have an up-to-date copy of the code available for public inspection, See Health and Safety Code Section 18942 ~~(d)~~(e)(1) and (2).

1.1.11 Format. This part fundamentally adopts the International Building Code by reference on a chapter-by-chapter basis. When a specific chapter of the International Building Code is not printed in the code and is marked "Reserved", such chapter of the International Building Code is not adopted as a portion of this code. When a specific chapter of the International Building Code is marked "Not adopted by the State of California" but appears in the code, it may be available for adoption by local ordinance.

Note: Matrix Adoption Tables at the front of each chapter may aid the code user in determining which chapter or sections within a chapter are applicable to buildings under the authority of a specific state agency, but they are not to be considered regulatory.

1.1.12 Validity. If any chapter, section, subsection, sentence, clause or phrase of this code is for any reason held to be unconstitutional, contrary to statute, exceeding the authority of the state as stipulated by statutes or otherwise inoperative, such decision shall not affect the validity of the remaining portion of this code.

**SECTION 1.2
BUILDING STANDARDS COMMISSION**

1.2.0 Building Standards Commission.

1.2.1 BSC Specific scope of application of the agency responsible for enforcement, the enforcement agency, and the specific authority to adopt and enforce such provisions of this code, unless otherwise stated.

1. State Buildings for all Occupancies.

Application – State buildings (all occupancies), including buildings constructed by the Trustees of the California State University (CSU) and the Regents of the University of California (UC) where no state agency has the authority to adopt building standards applicable to such buildings.

Enforcing Agency – State or local agency specified by the applicable provisions of law.

Authority Cited – Health and Safety Code section 18934.5.

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with section 18901.

2. University of California, California State Universities, and California Community Colleges.

Application – Standards for lighting for parking lots and primary campus walkways at the University of California, California State Universities, and California Community Colleges.

Enforcing Agency – State or local agency specified by the applicable provisions of law.

Authority Cited – Government Code section 14617.

Reference – Government Code section 14617.

3. Existing State-Owned Buildings, including those owned by the University of California and by the California State University–

Building seismic retrofit standards including abating falling hazards of structural and nonstructural components and strengthening of building structures. See also Division of the State Architect.

Enforcing Agency – State or local agency specified by the applicable provisions of law.

Authority Cited – Government Code section 16600

Reference – Government Code sections 16600 through 16604

4. Unreinforced Masonry Bearing Wall Buildings.

Application – Minimum seismic strengthening standards for buildings specified in Appendix Chapter 4 of the California Code for Existing Building Conservation Code, except for buildings subject to building standards adopted pursuant to Part 1.5 (commencing with Section 17910)

Enforcing Agency – State or local agency specified by the applicable provisions of law.

Authority Cited – Health and Safety Code section 18934.67

Reference – Health and Safety Code sections 18901 through 18949– Health and Safety Code Division 13, Part 2.5 commencing with Sections 18901.

1.2.2 Alternate Materials, Design, and Methods of Construction and Equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design, or method of construction shall be approved where the building finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method of work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quantity, strength, effectiveness, fire resistance, durability and safety.

1.2.2.1 State building. For purposes of this code, a “state building” is a structure for which a state agency or state entity has authority to construct, alter, enlarge, replace, repair or demolish.

1.2.2.2 Enforcement. [CSU, UC, Judicial Council and California Department of Corrections Rehabilitation] state agencies or state entities authorized to construct state buildings may appoint a building official who is responsible to the agency for enforcement of the provisions of the California Building Standards Code.

Exception: State buildings regulated by other sections of this code remain the enforcement responsibility of the designated entities.

1.2.2.3 Enforcement, Reserved for DGS.

1.2.2.4 Adopting agency identification. The provisions of this code applicable to buildings identified in this section will be identified in the Matrix Adoption Tables under the acronym BSC.

1.2.3 BSC-CG. Specific scope of application of the agency responsible for enforcement, the enforcement agency, and the specific authority to adopt and enforce such provisions of this code, unless otherwise stated.

Application – All occupancies where no other state agency has the authority to adopt green building standards applicable to those occupancies.

Enforcing agency – State or local agency specified by the applicable provisions of law.

Authority cited – Health and Safety Code Sections 18930.5, 18938 and 18940.5.

Reference – Health and Safety Code, Division 13, Part 2.5, commencing with Section 18901.

1.2.23.1 Research Reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

1.2.23.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the building official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards.

In the absence of recognized and accepted test methods, the building official shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the building official for the period required for retention of public records.

...

1.13.0 Department of Water Resources (DWR).

1.13.1 Application—Construction, installation, or alteration of graywater systems for subsurface irrigation and other safe uses.

Enforcing Agency—Local building department of the Department of Water Resources.

Authority Cited—Water Code Section 14875 through 14877.3.

References—Water Code Section 14875 through 14877.3.

4.13.2 Application - Installation, construction, alteration, or repair of recycled water systems for water closets, urinals, trap primers for floor drains, floor sinks and other allowed uses.

Enforcing Agency – State or local agency specified by the applicable provisions of law.

Authority Cited – Water Code Section 13557.

References – Water Code Section 13553.

4.13.3 1.13.2 Adoption Agency Identification. The provisions of this code applicable to buildings identified in this section will be identified in the Matrix Adoption Tables under the acronym DWR.

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Notation:

Authority: Health and Safety Code §18934.5, 18949.6

References: Health and Safety Code §18934.5, 18949.6

BSC proposes not to adopt CHAPTER 1 of the 2015 UPC for use in the 2016 CPC as Division II.

ADMINISTRATION

Chapter 1 (2015 UPC) - DIVISION II (2016 CPC)

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Notation:

Authority: Health and Safety Code §18934.5, 18949.6

References: Health and Safety Code §18934.5, 18949.6

ITEM 3. BSC proposes to adopt Chapter 2 of the 2015 UPC with some model code definitions deleted and existing amendments to be moved forward with modifications for use in the 2016 CPC.

**CHAPTERS 2
DEFINITIONS**

[Check Definitions for alt. water sources to add the word “grey” to match HCD]

...

205.0

-C-

...

Complex System [BSC]. Gray water systems that ...

...

206.0

-D-

....

Disposal Field [BSC]. An intended destination for gray water including but ...

...

207.0 -E-

...

Enforcing Agency [BSC]. "Enforcing Agency" is the designated department or ...

...

209.0 -G-

...

Graywater [BSC]. Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by ...

Gray Water. Untreated waste water that has not come into contact with toilet waste, kitchen sink waste, dishwasher waste or similarly contaminated sources. Gray water includes waste water from bathtubs, showers, lavatories, clothes washers, and laundry tubs. Also known as grey water, graywater, and greywater.

Gray Water Diverter Valve. A valve that directs gray water to the sanitary drainage system or to a subsurface irrigation system.

Gray Water System [BSC]. A system designed to collect gray water to be treated on-site for reuse or distribution to an irrigation or disposal field. A gray water system may ...

...

211.0 -I-

...

Irrigation Field [BSC]. An intended destination for graywater in the receiving landscape including ...

...

215.0 -M-

Mulch Basin. A subsurface catchment area for gray water that is filled with mulch and of sufficient depth and volume to prevent ponding, surfacing, or runoff.

Mulch Basin [BSC]. A subsurface type of irrigation or disposal field filled with mulch or ...

...

217.0 -O-

...

~~**On-Site Treated Nonpotable Water.** Nonpotable water, including grey water that has been collected, treated, and intended to be used on-site and is suitable for direct beneficial use.~~

~~**On-Site Treated Nonpotable Water [BSC].** Nonpotable water that has been collected, treated, and intended to be used on-site and is suitable for direct beneficial ...~~

...

220.0

-R-

...

~~**Rainwater.** Natural precipitation that has not been contaminated by use.~~

~~**Rainwater [BSC].** Precipitation on any public or private parcel that has not entered an offsite storm drain system or channel, a flood control channel, or any other stream ...~~

~~**Rainwater Catchment System.** A system that utilizes the principal of collecting, storing, and using rainwater from a rooftop or other manmade, aboveground collection surface. Also known as a rainwater harvesting system.~~

~~**Rainwater Catchment System [BSC].** A facility designed to capture, retain, and store rainwater flowing off a building, parking lot, or any other manmade impervious ...~~

~~**Receiving Landscape [BSC].** Includes features such as ...~~

~~**Reclaimed Water.** Nonpotable water provided by a water/wastewater utility that, as a result of tertiary treatment of domestic wastewater, meets requirements of the public health Authority Having Jurisdiction for its intended uses.~~

~~**Reclaimed (Recycled) Water [BSC].** Nonpotable water that meets California Department of Public Health statewide uniform criteria for disinfected tertiary recycled ...~~

...

221.0

-S-

...

~~**Simple System [BSC].** A gray water system serving one-and two-family dwellings, townhouses, or other occupancies with a discharge of 250 gallons (947 L) per day ...~~

...

222.0

-T-

...

~~**Treated Gray Water [BSC].** Non-potable water meeting the definition of "graywater" collected....~~

...

Notation:

Authority: Health and Safety Code Sections 18928, 18930.5, 18941.8

Reference: Health and Safety Code Section 18941.8, Water Code Section 14877.1

ITEM 4. BSC proposes to adopt Chapter 3 of the 2015 UMC, without amendments.

**CHAPTER 3
GENERAL REGULATIONS**

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Notation:

Authority: Health & Safety Code Sections 18928 and 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

ITEM 5. BSC proposes to adopt Chapter 4 of the 2015 UPC and bring forward exiting amendments from the 2013 CPC with modifications for use in the 2016 CPC.

**CHAPTER 4
PLUMBING FIXTURES AND FIXTURE FITTINGS**

Note: In addition the requirements of this chapter, which provide access to, or egress from, buildings or facilities where accessibility is required for applications listed in Section 409 1.9.0, of the California Building Code, regulated by the Division of the State Architect – Access Compliance shall also comply with Chapter 11A for public housing and Chapter 11B for public accommodation under authority cited by Gov. Code §4450 through 4461, 12955.1 and H&SC §18949.1, 19952 through 19959.

...

402.0 Installation.

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Note: [BSC] On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have...

...

407.0 Lavatories.

407.1 Application. Lavatories shall comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, ASME A112.19.12, CSA B45.5/IAPMO Z124, or CSA B45.11/IAPMO Z401.

407.2 Water Consumption. The maximum water flow rate of faucets shall comply with Section 407.2.1 and Section 407.2.2.

407.2.1 Maximum Flow Rate. The maximum flow rate for public lavatory faucets shall not exceed 0.5 gpm at 60 psi (1.9 L/m at 414 kPa) and 2.2 gpm at 60 psi (8.3 L/m at 414 kPa) for private lavatory faucets in accordance with ASME A112.18.1/CSA B125.1.

407.2.2 (formally 403.4) Metering Faucets. Metered faucets shall deliver a maximum of 0.25 gallons (1.0 L) per metering cycle in accordance with ASME A112.18.1/CSA B125.1.

407.2.2.1 Metering Faucets. [BSC-CG] Metering Faucets shall not deliver more than 0.20 gallons (0.76 L) per cycle in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).

...

408.0 Showers.

408.1 Application. Manufactured shower receptors and shower bases shall comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, or CSA B45.5/IAPMO Z124.

408.2 Water Consumption. Showerheads shall have a maximum flow rate of not more than 2.5 gpm at 80 psi (9.5 L/m at 552 kPa), in accordance with ASME A112.18.1/CSA B125.1.

408.2.1 Single showerhead. [BSC-CG] Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads in compliance with Chapter 5, Division 5.3. of the California Green Building Standards Code (CALGreen).

408.2.2 Multiple showerheads serving one shower. [BSC-CG] When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time in compliance with Chapter 5, Division 5.3. of the California Green Building Standards Code (CALGreen).

Note: A hand-held shower shall be considered a showerhead.

....

411.0 (formally 403.2) Water Closets.

411.1 Application. Water closets shall comply with ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, or CSA B45.5/IAPMO Z124. 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 less than 6 years of age, water closets shall be of a size and height suitable for children's use.

411.2 Water Consumption. Water closets shall have a maximum consumption not to exceed 1.6 gallons (6 Lpf) of water per flush in accordance with ASME A112.19.2/CSA B45.1.

411.2.1 Dual Flush Water Closets. Dual flush water closets shall comply with ASME A112.19.14. The effective flush volume for dual flush water closets shall be defined as the composite, average flush volume of two reduced flushes and one full flush.

411.2.2 Flushometer Valve Activated Water Closets. Flushometer valve activated water closets shall have a maximum flush volume of 1.6 gallons (6 Lpf) of water per flush in accordance with ASME A112.19.2/CSA B45.1.

411.2.2.1 Flushometer Valve Activated Water Closets. [BSC-CG] Flushometer valve activated water closets shall have a maximum flush volume of 1.28 gallons (4.8 Lpf) of water per flush in accordance with ASME A112.19.2/CSA B45.1.

411.2.3 Water Closets [BSC-CG] *The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets in compliance with Chapter 5, Division 5.3. of the California Green Building Standards Code (CALGreen).*

...

412.0 (formally 403.3) Urinals.

412.1 Application. Urinals shall comply with ASME A112.19.2/CSA B45.1, ASME A112.19.19, or CSA B45.5/IAPMO Z124. Urinals shall have an average water consumption not to exceed 1 gallon (3.8 Lpf) of water per flush.

412.1.1 Nonwater Urinal...

~~403.3.2~~ 412.1.2 Wall mounted Urinals. [BSC-CG]...

~~403.3.3~~ 412.1.3 Floor mounted urinals. [BSC-CG]...

...

417.0 Faucets and Fixture Fittings.

417.1 Application. Faucets and fixture fittings shall comply with ASME A112.18.1/CSA B125.1. Fixture fittings covered under the scope of NSF 61 shall be in accordance with the requirements of NSF 61.

417.1.1 Wash Fountains. [BSC-CG] *Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi] in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).*

417.1.2 Metering Faucets for Wash Fountains. [BSC-CG] *Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per cycle/20 [rim space (inches) at 60 psi] in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).*

...

420.0 Sinks.

420.1 Application. Sinks shall comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, or CSA B45.5/IAPMO Z124. Moveable sink systems shall comply with ASME A112.19.12.

420.2 Water Consumption. Sink faucets shall have a maximum flow rate of not more than 2.2 gpm at 60 psi (8.3 L/m at 414 kPa) in accordance with ASME A112.18.1/CSA B125.1.

Exceptions:

- (1) Clinical sinks
- (2) Laundry trays
- (3) Service sinks

420.2.1 Kitchen faucets [BSC-CG] *Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).*

...

422.0 Minimum Number of Required Fixtures.

422.1 Fixture Count. Plumbing fixtures shall be provided for the type of building occupancy and in the minimum number shown in Table 422.1. The total occupant load and occupancy classification shall be

determined in accordance with *Occupant Load Factor Table A*. Occupancy classification not shown in Table 422.1 shall be considered separately by the Authority Having Jurisdiction.

...

**TABLE 422.1
MINIMUM PLUMBING FACILITIES¹**

Each building shall be provided with sanitary facilities, including provisions for persons with disabilities as prescribed by the Department Having Jurisdiction^{4,7}. Table 422.1 applies to all new buildings, additions to a building, and changes of occupancy or type in an existing building resulting in increased occupant load.

(Entire Table not shown for clarity)

TYPE OF OCCUPANCY ²	WATER CLOSETS (FIXTURES PER PERSON) ³	URINALS (FIXTURES PER PERSON)	LAVATORIES (FIXTURES PER PERSON)	BATHTUBS OR SHOWERS (FIXTURES PER PERSON)	DRINKING FOUNTAINS/FACILITIES (FIXTURES PER PERSON)	OTHER
...

Notes:

¹ The figures shown are based upon one (1) fixture being the minimum required for the number of persons indicated or any fraction thereof.

² A restaurant is defined as a business that sells food to be consumed on the premises.

a. The number of occupants for a drive-in restaurant shall be considered as equal to the number of parking stalls.

b. Hand-washing facilities shall be available in the kitchen for employees.

³ The total number of required water closets for females shall be not less than the total number of required water closets and urinals for males. **[BSC]** This requirement shall not apply when single occupancy toilet facilities are provided for each sex in an A or E occupancy with an occupant load of less than 50. Either

a. The required urinal shall be permitted to be omitted or

b. If installed, the urinal shall not require a second water closet to be provided for the female.

⁴ For each urinal added in excess of the minimum required, one water closet shall be permitted to be deducted. The number of water closets shall not be reduced to less than two-thirds of the minimum requirement.

⁵ Group lavatories that are 24 lineal inches (610 mm) of wash sink or 18 inches (457 mm) of a circular basin, where provided with water outlets for such space, shall be considered equivalent to one lavatory.

⁶ Metering of self closing faucets shall be installed on lavatories intended to serve the transient public.

^{4,7} **[BSC]** In accordance with Sections 1.8.7 and 301.2, the Authority Having Jurisdiction may approve alternative design criteria when determining the minimum number of plumbing fixtures.

**TABLE A.
OCCUPANT LOAD FACTOR:
[BSC]**

Occupancy*, **	Occupant Load Factor (square feet) (CBC 2001, Table A-29A)
----------------	---

Group A	
1. Auditoriums, convention halls, dance floors, lodge rooms, stadiums and casinos (where no fixed seating is provided) (use 1/2 "one-half" the number of fixed seating)	15
2. Conference rooms, dining rooms, drinking establishments, exhibit rooms, gymnasiums, lounges, stages and similar uses including restaurants classified as Group B occupancies	30
3. Worship places; principal assembly area, educational and activity unit (where no fixed seating is provided) (use 1/2 "one-half" the number of fixed seating)	30
Group B Office or public buildings (area accessible to the public)	200
Group E Schools for daycare, elementary, secondary	50
Educational Facilities Other than Group E Colleges, universities, adult center, etc	50
Group F Workshop, foundries and similar establishments	2,000
Group H Hazardous materials fabrication and storage	2,000
Group I Hospital general use area, Health Care facilities	200
Group M Retail or Wholesale stores	200
Group R Congregate residence, Group R-1	200
Group S Warehouse	5,000

* Any uses not specifically listed shall be based on similar uses listed in this table.

** For building or space with mixed occupancies, use appropriate occupancy group for each area (for example, a school may have an "A" occupancy for the gymnasium, a "B" occupancy for the office, an "E" occupancy for the classrooms, etc.)

Accessory areas may be excluded (for example: hallway, restroom, stair enclosure)

ITEM 6. BSC proposes to adopt Chapter 5 of the 2015 UPC without amendments.

**CHAPTER 5
WATER HEATERS**

....

Notation:

Authority: Health & Safety Code Sections 18928 and 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

ITEM 7. BSC proposes to adopt Chapter 6 of the 2015 UPC with amendments as follows, and to carry forward exiting amendments.

**CHAPTER 6
WATER SUPPLY AND DISTRIBUTION**

TABLE 604.1
[Partial Table shown]

MATERIALS FOR BUILDING SUPPLY AND WATER DISTRIBUTION PIPING AND FITTINGS

MATERIAL	BUILDING SUPPLY PIPE AND FITTINGS	WATER DISTRIBUTION PIPE AND FITTINGS	REFERENCED STANDARDS(S) PIPE	REFERENCED STANDARD(S) FITTINGS
...
PE	X ¹	--	ASTM D2239, ASTM D2737, ASTM D3035, AWWA C901, CSA B137.1	ASTM D2609, ASTM D2683, ASTM D3261, ASTM F1055, CSA B137.1
...
PEX ^{2,3}	X	X	ASTM F876, ASTM F877, CSA B137.5, AWWA C904 ¹	ASSE 1061, ASTM F877, ASTM F1807, ASTM F1960, ASTM F1961, ASTM F2080, ASTM F2159, ASTM F2735, CSA B137.5
PEX-AL-PEX ⁴	X	X	ASTM F1281, CSA B137.10, ASTM F2262	ASTM F1281, ASTM F1974, ASTM F2434, CSA B137.10
PP	X	X	ASTM F2389, CSA B137.11	ASTM F2389, CSA B137.11
PVC	X ¹	--	ASTM D1785, ASTM D2241, AWWA C900	ASTM D2464, ASTM D2466, ASTM D2467, ASTM F1970
...

¹ For building supply or cold-water applications.

² When PEX tubing is placed in soil and is used in potable water systems intended to supply drinking water to fixtures or appliances, the tubing or piping shall be sleeved with a material approved for potable water use in soil or other material that is impermeable to solvents or petroleum products.

³ *PEX tubing shall meet or exceed the requirements of ASTM F876-08 or an equivalent or more stringent standard when used in continuously recirculating hot water systems and the PEX tubing is exposed to the hot water 100% of the time.*

⁴ **[For BSC]** *The use of PEX-AL-PEX in potable water supply systems is not adopted.*

604.13. Water Heater Connections. Flexible metallic water heater connectors or reinforced flexible water heater connectors connecting water heating to the piping system shall be in accordance with the applicable standards referenced in Table 1401.1....

[BSC] *PEX-AL-PEX is not adopted for use in potable water supply and distribution systems.*

605.10 (Formally 605.11) PEX-AL-PEX Plastic Tubing and Joints. PEX-AL-PEX plastic pipe or tubing and fitting joining methods shall be installed in accordance with the manufacturer's installation instructions and shall comply with Section 605.11.1 and section 605.11.1.1.

[BSC] *PEX-AL-PEX is not adopted for use in potable water supply and distribution systems.*

605.10.1 (Formally 605.11.1) Mechanical Joints. Mechanical joints between PEX-AL-PEX tubing and fittings shall include mechanical and compression type fittings and insert fittings with a crimping ring...

[BSC] *PEX-AL-PEX is not adopted for use in potable water supply and distribution systems.*

605.10.1.1 (Formally 605.11.1.1) Compression Joints. Compression joints shall include compression insert fittings and shall be joined to PEX-AL-PEX pipe through the compression of a split ring or compression nut around the outer circumferences of the pipe, forcing the pipe material into the annular space formed by the ribs on the fitting.

[BSC] *PEX-AL-PEX is not adopted for use in potable water supply and distribution systems.*

...

Notation:

Authority: Health & Safety Code Section 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

ITEM 8. BSC proposes to adopt Chapter 7 SANITARY DRAINAGE, CHAPTER 8 INDIRECT WASTES, CHAPTER 9 VENTS, CHAPTER 10 TRAPS AND INTERCEPTORS, of the 2015 UPC without amendments.

...

Notation:

Authority: Health & Safety Code Sections 18928 and 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

ITEM 9. BSC proposes to adopt Chapter 11 of the 2015 UPC without amendment, repeal amendment in Section 1101.3 of the 2013 CPC.

**CHAPTER 11
STORM DRAINAGE**

1101.4 (Formally 1101.3) Material Uses. Pipe, tube, and fittings conveying . . .

. . .

Notation:

Authority: Health & Safety Code Sections 18928 and 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

ITEM 10. BSC proposes to adopt Chapter 12 of the 2015 UPC without amendments.

**CHAPTER 12
FUEL PIPING**

. . .

Notation:

Authority: Health & Safety Code Sections 18928 and 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

ITEM 11. BSC proposes not to adopt Chapter 13 of the 2015 UPC.

**CHAPTER 13
HEALTH CARE FACILITIES AND MEDICAL GAS AND VACUUM SYSTEMS**

Notation:

Authority: Health & Safety Code Sections 18928 and 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

ITEM 12. BSC proposes to adopt Chapter 14 of the 2015 UPC with the following amendments.

**CHAPTER 14
FIRESTOP PROTECTION**

Notation:

Authority: Health & Safety Code Sections 18928 and 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

ITEM 13. BSC proposes to adopt Chapter 15 of the 2015 UPC with amendments as follows, and to carry forward exiting amendments.

**CHAPTER 15 (Formally Chapter 16)
ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS**

Intent

The provisions of this chapter are intended to:

1. Conserve water by facilitating greater reuse of laundry, shower, lavatory and similar sources of discharge for irrigation and/or indoor use.
2. Reduce the number of non-compliant graywater systems by making legal compliance easily achievable.
3. Provide guidance for avoiding potentially unhealthful conditions.
4. Provide an alternative way to relieve stress on a private sewage disposal system by diverting the graywater.

1501.0 General.

1501.1 (Formally 1601.1) Applicability. ... [BSC] The provisions of this chapter shall apply to the construction, alteration, discharge, use and repair of alternate water source systems for nonpotable applications.

1501.1.1 (Formally 1601.1.1) Allowable Use of Alternate Water. Where approved or required by the Authority Having Jurisdiction, alternate water sources [reclaimed (recycled) water...

1501.2 (Formally 1601.2 System Design) System Design. ~~Alternate water source systems complying with this chapter shall be designed by a person who demonstrates competency to design the alternate in accordance with this chapter by a registered design professional or who demonstrates competency to design the alternate water source system as required by the Enforcing Agency. The Enforcing Agency may also plans and specifications to be prepared by a licensed design professional for Complex Systems, Components, piping, and fittings used in any alternate water source system shall be listed.~~ Alternate water source systems shall be designed in accordance with this chapter by a registered design professional or who demonstrates competency to design the alternate water source system as required by the Authority Having Jurisdiction. Components, piping, and fittings used in any alternate water source system shall be listed.

1501.3 (Formally 1601.3) Permit. It shall be unlawful for a person to construct, install, alter, or cause to be constructed, installed, or altered an alternate water source system in a building or on a premise without first obtaining a permit to do such work. *Prior to commencing the issuance of permits for indoor gray water systems pursuant to state requirements relating to gray water, a city, county, or other local agency shall seek consultation with the local public health department to ensure that local public health concerns are addressed in local standards or ordinances, or in issuing permits. See California Water Code Section 14877.3.*

Exception: [BSC] A construction permit shall be ...

1501.4 (Formally 1601.4) Component Identification. System components shall be properly ...

1501.5 (Formally 1601.5) Maintenance and Inspection. Alternate water source systems and components shall be inspected and maintained in accordance with *the manufacturer's recommendations*

and/or as required by the Enforcing Agency. **[BSC]** Where no manufacturers recommendations exist, additional recommendations are listed in Table 4604.5 1501.5.

1501.5.1 Frequency. Alternate water source systems and components shall be inspected and maintained in accordance with Section 1501.5.1 unless more frequent inspection and maintenance is required by the manufacturer.

1501.5.2 Maintenance Log. A maintenance log for gray water and on-site treated nonpotable water systems is required to have a permit in accordance with Section 1501.3 and shall be maintained by the property owner or designated appointee shall ensure that a record of testing, inspection and maintenance in accordance with Table 1501.5 is maintained in the log. The log will indicate the frequency of inspection and maintenance for each system.

1501.5.3 1501.5.1 (Formally 1601.5.1) Maintenance Responsibility. The required maintenance and inspection of alternate water source systems shall be the responsibility of ...

1501.6 (Formally 1601.6) Operation and Maintenance Manual. An operation and maintenance manual for gray water, rainwater, and on-site treated water systems required to have a permit in accordance with Section 1501.3 shall be supplied to the building owner by the system designer or *installer*. The operating and maintenance manual shall include the following:

- (1) Detailed diagram *Diagram(s)* of the entire system and the location of system components.
- (2) Instructions on operating and maintaining the system.
- (3) Details *Instructions* on maintaining the required water quality as determined by the Authority Having Jurisdiction for on-site treated nonpotable water systems.
- (4) Details on *startup, shutdown, and* deactivating the system for maintenance, repair, or other purposes.
- (5) Applicable testing, inspection, and maintenance frequencies in accordance with Table Section 1501.5.
- (6) A method of contacting the *installer and/or* manufacturer(s).
- (7) *Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.*

1501.7 (Formally 1601.7) Minimum Water Quality Requirements.

The minimum water quality for alternate water source systems shall meet the applicable water quality requirements for the intended application as determined by the Authority Having Jurisdiction. In the absence of water quality requirements, the EPA/625/R-04/108 contains recommended water reuse guidelines to assist regulatory agencies develop, revise, or expand alternate water source water quality standards. **[BSC]** for on-site nonpotable treated gray water systems, the requirements of NSF/ANSI 350 shall apply.

Exception:

Water treatment is not required for gray water used for subsurface/subsoil irrigation or a disposal field.

**TABLE 1501.5 (Formally 1601.5) [BSC]
RECOMMENDED MINIMUM ALTERNATE WATER SOURCE TESTING, INSPECTION, AND
MAINTENANCE FREQUENCY**

DESCRIPTION	MINIMUM FREQUENCY
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Inspect and clean filters and screens, and replace (where necessary).	<i>In accordance with manufacturer's instructions, and/or the Authority Having Jurisdiction, or Every 3 months.</i>
Inspect and verify that disinfection, filters and water quality treatment devices and systems are operational and maintaining minimum water quality requirements as determined by the Authority Having Jurisdiction.	<i>In accordance with manufacturer's instructions, and the Authority Having Jurisdiction.</i>
Inspect pumps and verify operation.	<i>In accordance with manufacturer's instructions, and/or the Authority Having Jurisdiction, or After initial installation and every 12 months thereafter.</i>
Inspect valves and verify operation.	<i>In accordance with manufacturer's instructions, and/or the Authority Having Jurisdiction, or After initial installation and every 12 months thereafter.</i>
Inspect pressure tanks and verify operation.	<i>In accordance with manufacturer's instructions, and/or the Authority Having Jurisdiction, or After initial installation and every 12 months thereafter.</i>
Clear debris from and inspect storage tanks, locking devices, and verify operation.	<i>In accordance with manufacturer's instructions, and/or the Authority Having Jurisdiction, or After initial installation and every 12 months thereafter.</i>
Inspect caution labels and marking.	<i>In accordance with manufacturer's instructions, and/or the Authority Having Jurisdiction, or After initial installation and every 12 months thereafter.</i>
Inspect and maintain mulch basins for gray water irrigation systems.	<i>As needed to maintain mulch depth and prevent ponding and runoff.</i>
Cross-connection inspection and test*	<i>In accordance with manufacturer's instructions, and/or the Authority Having Jurisdiction, or After initial installation and every 12 months thereafter.</i>
<i>*The cross-connection test shall be performed in the presence of the Authority Having Jurisdiction in accordance with the requirements of this chapter, unless site conditions do not require it. Alternate testing requirements shall be permitted by the Authority Having Jurisdiction.</i>	

1501.8 (Formally 1601.8) Material Compatibility. Alternate water source systems shall be ...

1501.9 (Formally 1601.9) System Controls. Controls for pumps, valves, and ...

1501.10 (Formally 1604.11.1) Commercial, Industrial, and Institutional Restroom Signs. A sign shall be installed in restrooms in commercial, industrial, and institutional occupancies using reclaimed (recycled) water and on-site treated water, for water closets, urinals, or both. Each sign shall contain ~~1/2~~ of an inch (12.7 mm) letters of a highly visible color on a contrasting background. The location of the sign(s) shall be such that the sign(s) are visible to users. The location of the sign(s) shall be approved by the Authority Having Jurisdiction and shall contain the following text:

TO CONSERVE WATER, THIS BUILDING USES * _____ * ON-SITE TREATED NONPOTABLE GRAY WATER TO FLUSH TOILETS AND URINALS.

1501.10.1 (Formally 1604.11.2) Equipment Room Signs. Each room containing reclaimed (recycled) water and on-site treated water equipment shall have a sign posted in a location that is visible to anyone working on or near nonpotable water equipment with the following wording in 1 inch (25.4 mm) letters:

CAUTION: NONPOTABLE * _____ *, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.

* _____ *Shall indicate RECLAIMED (RECYCLED) WATER or ON-SITE TREATED WATER, accordingly.

1501.11 (Formally 1604.12) Inspection and Testing. Alternate water source systems shall be inspected and tested in accordance with Section 1501.11.1 and Section 1501.11.2 *and/or as required by the Authority Having Jurisdiction.*

1501.11.1 (Formally 1604.12.1) Supply System Inspection and Test. Alternate ...

1501.11.2 (Formally 1604.12.2) Annual Cross-Connection Inspection and Testing. An initial and subsequent annual inspection and test shall be performed on both the potable and alternate water source systems. The potable and alternate water source system shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection in accordance with Section 1501.11.2.1 through Section 1501.11.2.4.

1501.11.2.1 (Formally 1604.12.2.1) Visual System Inspection. Prior to commencing the cross-connection testing, a dual system inspection shall be ...

1501.11.2.2 (Formally 1604.12.2.2) Cross-Connection Test. The procedure for determining cross-connection shall be followed by the applicant in ...

1501.11.2.3 (Formally 1604.12.2.3) Discovery of Cross-Connection. In the event that a cross-connection is discovered, the following procedure, in ...

1501.11.2.4 Annual Inspection. An annual inspection of the alternate water source system, following the procedures listed in ...

1501.12 Separation Requirements. Underground alternate water source service piping other than gray water shall be separated from the building sewer in accordance...

1501.13 Abandonment. Alternate water source systems that are no longer in ...

1501.13.1 General. An abandoned system or part thereof covered ...

1501.13.2 Underground Tank. An underground water storage tank...

1501.14 (Formally 1604.13) Sizing. Unless otherwise provided for in this chapter, alternate water source piping shall be sized in accordance with Chapter 6 for sizing potable water piping.

1502.0 (Formally 1602.0) Gray Water Systems. *[BSC-CG] Gray water systems shall be verified in accordance with the California Green Building Standards Code (CALGreen), Chapter 5, Division 5.3.*

1502.1 (Formally 1602.1) General. The provisions of this section shall apply to the construction, alteration, and repair of gray water systems. *A city, county, or city and county or other local government may adopt, after a public hearing and enactment of ...*

- (A) All gray water systems shall be designed with a diverter valve to allow...
- (B) Water used to wash diapers or similarly soiled or ...
- (C) Gray water shall not be used in spray irrigation, allowed to pond ...
- (D) Human contact with gray water or the soil irrigated by gray water ...
- (E) Gray water may be released above the ground surface provided at...
- (F) Gray water shall not contain hazardous chemicals derived from ...
 - (1) **[HCD]** The prohibition in Subsection (F) includes, but is not limited to, home photo labs or similar hobbyist or home occupational activities.
 - (2) **[BSC]** photo labs or similar activities.
- (G) Exemption from construction permit requirements of this code shall ...
- (H) An operation and maintenance manual shall be provided to the ...
- (I) A gray water system shall not be connected to any potable water system ...

1502.1.1 (Formally 1602.1.1) [HCD 1] Clothes Washer System. (Reserved for HCD)

1502.1.2 (Formally 1602.1.2) Simple System. Simple systems exceed a clothes washer system and shall comply with the following:

- (1) The discharge capacity of a gray water system shall be determined by Section ~~1602.8~~ **1502.8**. Simple systems have a discharge capacity of 250 gallons (947 L) per day or less.
- (2) Simple systems shall require a construction permit, unless exempted ...
- (3) The design of simple systems shall meet generally ...

1502.1.3 (Formally 1602.1.3) Complex System. Any gray water system that is not a clothes washer system or simple system shall comply with the following:

- 1. The discharge capacity of a gray water system shall be determined ...
- 2. Complex systems shall require a construction permit, unless exempted from a construction permit by the-Enforcing Agency. The Enforcing Agency ...

1502.2 (Formally 1602.2) System Requirements. Gray water shall be permitted to be diverted away from a sewer or private sewage disposal system, and ...

1502.2.1 (Formally 1602.2.2) Surge Capacity. Gray water systems shall be designed to have the capacity to accommodate peak flow rates and distribute the ...

Exception: It is not the intent of this section to require that all ...

1502.2.2 (Formally 1602.2.3) Diversion. The point of diversion of gray water to the sanitary drainage system shall occur downstream of fixture traps and vent connections...

Exception [HCD 1]: [Reserved for HCD]

1502.2.3 (Formally 1602.2.4) Backwater Valves. Gray water drains subject to backflow ...

1502.3 (Formally 1602.3) Connections to Potable and Reclaimed (Recycled) Water Systems. Gray

water systems shall have no ~~direct~~ *unprotected* connection to a potable water supply, on-site treated nonpotable water supply, or reclaimed (recycled) water systems. Potable, on-site treated nonpotable, or reclaimed (recycled) water or *rainwater* is permitted to be used as makeup water for a non-pressurized storage tank provided the connection is protected by an airgap, *reduced-pressure principle backflow preventer* or other physical device which prevents backflow in accordance with this code.

1502.4 (Formally 1602.4) Location. No gray water system or part thereof shall be located ...

Exception: When there exists a lawfully recorded perpetual and exclusive covenant to an easement appurtenant and right-of-way between adjoining land-owners ...

1502.5 (Formally 1602.5) Plot Plan Submission. No permit for a gray water system shall be...

Exception: (Reserved for HCD)

1502.6 (Formally 1602.6) Prohibited Location. Where there is insufficient lot area or inappropriate soil conditions for adequate absorption to prevent ...

1602.7 Drawings and Specifications. The Authority Having Jurisdiction *may* require the following information to be included with or in the plot plan before a permit is issued for a gray water system, or at a time during the construction thereof:

- (1) Plot plan drawn to scale and completely dimensioned, showing lot lines and structures, ...
- (2) Details of construction necessary to ensure compliance with the requirements of ...
- (3) Details for holding tanks shall include dimensions, structural calculations, bracings, ...
- (4) A log of soil formations and groundwater level as determined by test holes dug...

Exceptions:

- (1) The Authority Having Jurisdiction shall permit the use of Table 1502.10 in ...
- (2) *The Enforcing Agency may waive the requirement for identification of ...*
- (3) *The absence of groundwater in a test hole three (3) vertical feet (915 mm) below ...*
- (5) Distance between the plot and surface waters such as lakes, ponds, rivers or streams, ..

**TABLE 1502.4 (Formally 1602.4)
LOCATION OF GRAY WATER SYSTEM**

MINIMUM HORIZONTAL DISTANCE IN CLEAR REQUIRED FROM	SURGE TANK (feet)	SUBSURFACE AND SUBSOIL IRRIGATION FIELD AND MULCH BED BASIN (feet)	DISPOSAL FIELD
Building structures ¹	5 ^{2,3,9}	2 ^{3,8}	5
Property line adjoining private property	5	5 ⁸	5
Water supply wells ⁴	50	100	100
Streams and lakes ⁴	50	100 ^{5,10}	100 ⁵
Sewage pits or cesspools	5	5	5
Sewage disposal field ¹⁰	5	4 ⁶	4 ⁶
Septic tank	0	5	5
On-site domestic water service line	5	0	0
Pressurized public water main ⁷	10	10	10 ⁷

For SI units: 1 foot = 304.8 mm

Notes:

- ¹ *Building structures do not include* porches and steps, whether covered or uncovered, breezeways, roofed carports, *roofed porte cocheres*, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances.
- ² The distance shall be permitted to be reduced to 0 feet for aboveground tanks where first approved by the Authority Having Jurisdiction.
- ³ *Underground tanks shall not be located within a 45 degree angle from the bottom of the foundation, or they shall be designed to address the surcharge imposed by the structure. The distance may be reduced to six (6) inches (153 mm) for aboveground tanks when first approved by the Enforcing Agency.*
- ⁴ Where special hazards are involved, the distance required shall be increased as directed by the Authority Having Jurisdiction.
- ⁵ These minimum clear horizontal distances shall apply between the irrigation or disposal field and the ocean mean higher high tide line.
- ⁶ Add 2 feet (610 mm) for each additional foot of depth in excess of 1 foot (305 mm) below the bottom of the drain line.
- ⁷ For parallel construction or for crossings, approval by the Authority Having Jurisdiction shall be required.
- ⁸ The distance shall be permitted to be reduced to 1 1/2 feet (457 mm) for drip and mulch basin irrigation systems.
- ⁹ The distance shall be permitted to be reduced to 0 feet for surge tanks of 75 gallons (284 L) or less.
- ¹⁰ *The minimum horizontal distance may be reduced to 50 feet (15,240 mm) for irrigation fields utilizing gray water which has been filtered prior to entering the distribution piping.*

Exception: (Reserved for HCD)

1502.8 (Formally 1602.8) Procedure for Estimating Gray Water Discharge. Gray water systems shall be designed to distribute the total amount of estimated gray water on a daily basis. The water discharge for gray water systems shall be determined in accordance with Section 1502.8.1 or Section 1502.8.2.

Exception: It is not the intent of this section to require that all gray water must be handled by an irrigation field or disposal field. It is acceptable for excess gray water to be diverted to the building sewer through a diverter valve or overflow drain as permitted in this chapter.

1502.8.1 (Formally 1602.8.1) Single Family Dwellings and Multi-Family Dwellings. Reserved for HCD.

1502.8.2 (Formally 1602.8.2) Commercial, Industrial, and Institutional Occupancies. The Authority Having Jurisdiction may utilize the gray water discharge for commercial, industrial, and institutional occupancies shall be calculated by utilizing the procedure in Section 1502.8.1 procedures listed below, water use records, or other documentation to estimate gray water discharge.

1502.8.2.1 (Formally 1602.8.2.1) Lavatories. Daily discharge from lavatories may be determined by the following equation:

(Equation 15.1 16-1)

Occupants X lavatory flow rate X 3

Where:

The number of occupants = square footage of the building divided by the occupant load factor from the California Plumbing Code Chapter 4, Table A.

Lavatory fixture flow rate, new construction = that from the California Green Building Standards (CALGreen) Code Table 5.303.2.3

Lavatory fixture flow rate, existing fixtures = actual flow rate for existing fixtures

3 = average number of uses per person per day

1502.8.2.2 (Formally 1602.8.2.2) Showers. Daily gray water discharge from showers may be determined by the following equation:

(Equation 15.2 16-2)

Number of daily uses X shower flow rate X 5 minutes

1502.8.2.3 (Formally 1602.8.2.3) Commercial Clothes Washers. Daily gray water discharge from commercial clothes washers may be determined by the following equation:

(Equation 15.3 16-3)

Cubic feet of capacity X Water Factor X 6

Where:

Water Factor = gallons per cubic foot

6 = average number of uses per day

Note: Cubic feet of capacity and Water Factor are contained in product specifications or are available from the washer manufacturer.

1502.8.3 (Formally 1602.8.3) Daily Discharge. Gray water systems using tanks shall be designed to minimize the amount of time gray water is held in the tank and shall be sized to distribute the total amount of estimated gray water on a daily basis.

Exception: Approved on-site treated nonpotable gray water systems.

1502.9 (Formally 1602.9) Gray Water System Components. Gray water system components shall comply with Section 1502.9.1 through Section 1502.9.7.

1502.9.1 (Formally 1602.9.1) Surge Tanks. Where installed, surge tanks shall be in accordance with the following:

- (1) Surge tanks shall be constructed of solid, durable materials not subject to excessive corrosion or decay and shall be watertight. *Above ground surge tanks shall be protected from direct sunlight or shall be constructed of opaque UV resistant materials including but not limited to heavily tinted plastic, fiberglass, lined metal, concrete and wood.* Surge tanks constructed of steel shall be approved by the Authority Having Jurisdiction, provided such tanks are in accordance with approved applicable standards.
- (2) Each surge tank shall be vented in accordance with this code. The vent ...
- (3) Each surge tank shall have an access ...
- (4) Each surge tank shall have its rated capacity permanently marked ...
- (5) Each surge tank shall have an overflow drain. The overflow ...
- (6) The overflow drainpipes shall not be less in size than the inlet ...
- (7) Surge tank shall be structurally designed to withstand anticipated earth or ...
- (8) Where a surge tank is installed underground, the ...
- (9) Surge tanks shall be installed on dry, level, well-compacted soil ...
- (10) Surge tanks shall be anchored to prevent against overturning where ...
- (11) *(Reserved for HCD).*

1502.9.2 (Formally 1602.9.2) Gray Water Pipe and Fitting Materials. Aboveground and underground building drainage and vent pipe and ...

1502.9.3 Subsoil Irrigation Field Materials. Subsoil irrigation field piping shall be constructed of 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 gray water into the trench area. Material, construction, and perforation of the pipe shall be in accordance with the appropriate absorption field drainage piping standards and shall be approved by the Authority Having Jurisdiction.

1502.9.3 (Formally 1602.9.3) Animals and Insects. Gray water tank openings shall be ...

1502.9.4 Subsurface Irrigation Field and Mulch Basin Supply Line Materials. Materials for gray water piping outside the building shall be polyethylene or PVC. Drip feeder lines shall be PVC or polyethylene tubing.

1502.9.4 (Formally 1602.9.4) Freeze Protection. Tanks and piping installed in locations ...

1502.9.5 Valves. Valves shall be accessible.

1502.9.6 Trap. Gray water piping discharging into the surge tank or having a direct connection to the sanitary drain or sewer piping shall be downstream of an approved water seal type trap(s). Where no such trap(s) exists, an approved vented running trap shall be installed upstream of the connection to protect the building from possible waste or sewer gases.

1502.9.7 Backwater Valve. A backwater valve shall be installed on gray water drain connections to the sanitary drain or sewer.

1502.10 (Formally 1602.10) Subsurface Irrigation System Zones. Irrigation or disposal fields shall be permitted to have one or more valved zones. Each zone

1502.10.1 (Formally 1602.10.1) Required Area of Subsurface Irrigation Fields, Subsoil Irrigation Fields and Mulch Basins. The minimum effective irrigation area of subsurface irrigation fields, subsoil

1502.10.2 (Formally 1602.10.2) Determination of Maximum Absorption Capacity. The irrigation field and mulch basin size shall be based on the maximum absorption capacity of...

Exceptions:

- (1) The Enforcing Agency may waive the requirement for identification of groundwater level and/or soil absorption qualities based on knowledge of local conditions.
- (2) Irrigation fields in compliance with Section ~~1602.11.2~~ 1502.11.2 which only utilize drip type emitters, are exempt from percolation tests.

**TABLE 1502.10 (Formally 1602.10)
DESIGN OF SIX TYPICAL SOILS**

TYPE OF SOIL	MINIMUM SQUARE FEET OF IRRIGATION/LEACHING AREA PER 100 GALLONS OF ESTIMATED GRAY WATER DISCHARGE PER DAY	MAXIMUM ABSORPTION CAPACITY IN GALLONS PER SQUARE FOOT OF IRRIGATION/LEACHING AREA FOR A 24-HOUR PERIOD
Coarse sand or gravel	20	5.0
Fine sand	25	4.0
Sandy loam	40	2.5
Sandy clay	60	1.7
Clay with considerable sand or gravel	90	1.1
Clay with small amounts of sand or gravel	120	0.8

For SI units: 1 square foot = 0.0929 m², 1 gallon per day = 0.000043 L/s

1502.10.3 (Formally 1602.10.3) Groundwater Level. No excavation for an irrigation field, ...

Note: The absence of groundwater in a test hole three (3) vertical feet (915 mm) below ...

1502.11 Subsurface and Subsoil Irrigation Field, and Mulch Basin Design and Construction.

Subsurface and subsoil irrigation field, and mulch basin design and construction shall be in accordance with Section 1502.11.1 through Section 1502.11.3. Where a gray water irrigation system design is predicated on soil tests, the subsurface or subsoil irrigation field or mulch basin shall be installed at the same location and depth as the tested area.

1502.11.1 Subsurface Irrigation Field. A subsurface irrigation field shall comply with Section 1502.11.1.1 through Section 1502.11.1.6.

1502.11.1.1 Minimum Depth. Supply piping, including drip feeders, shall be not less than 2 inches (51 mm) below finished grade and covered with mulch or soil.

1502.11.1.2 Filter. Not less than 140 mesh (105 micron) filter with a capacity of 25 gallons per minute (gpm) (1.58 L/s), or equivalent shall be installed. Where a filter backwash is installed, the backwash and flush discharge shall discharge into the building sewer or private sewage disposal system. Filter backwash and flush water shall not be used.

1502.11.1.3 Emitter Size. Emitters shall be installed in accordance with the manufacturer's installation instructions. Emitters shall have a flow path of not less than 1200 microns (μ) (1200 μm) and shall not have a coefficient of manufacturing variation (Cv) exceeding 7 percent. Irrigation system design shall be such that emitter flow variation shall not exceed 10 percent.

1502.11.1.4 Number of Emitters. The minimum number of emitters and the maximum discharge of each emitter in an irrigation field shall be in accordance with Table 1502.11.

1502.11.1.5 Controls. The system design shall provide user controls, such as valves, switches, timers, and other controllers, to rotate the distribution of gray water between irrigation zones.

1502.11.1.6 Maximum Pressure. Where pressure at the discharge side of the pump exceeds 20 pounds force per square inch (psi) (138 kPa), a pressure-reducing valve able to maintain downstream pressure not exceeding 20 psi (138 kPa) shall be installed downstream from the pump and before an emission device.

1502.11.2 Mulch Basin. A mulch basin shall comply with Section 1502.11.2.1 through Section 1502.11.2.4.

1502.11.2.1 Single Family and Multi-Family Dwellings. The gray water discharge to a mulch basin is limited to single family and multi-family dwellings.

1502.11.2.2 Size. Mulch basins shall be of sufficient size to accommodate peak flow rates and distribute the total amount of estimated gray water on a daily basis without surfacing, ponding or runoff. Mulch basins shall have a depth of not less than 10 inches (254 mm) below finished grade. The mulch basin size shall be based on the maximum absorption capacity of the soil and determined using Table 1502.10.

1502.11.2.3 Minimum Depth. Gray water supply piping, including drip feeders, shall be not less than 2 inches (51 mm) below finished grade and covered with mulch.

1502.11.2.4 Maintenance. The mulch basin shall be maintained periodically to retain the required depth and area, and to replenish the required mulch cover.

1502.11.3 Subsoil Irrigation Field. Subsoil irrigation fields shall comply with Section 1502.11.3.1 through Section 1502.11.3.3.

1502.11.3.1 Minimum Pipe Size. Subsoil irrigation field distribution piping shall be not less than 3 inches (80 mm) diameter.

1502.11.3.2 Filter Material and Backfill. Filter material, clean stone, gravel, slag, or similar material acceptable to the Authority Having Jurisdiction, varying in size from ¼ of an inch (19.1 mm) to 2¼ inches (64 mm) shall be placed in the trench to the depth and grade in accordance with Table 1502.11.3. The perforated section of subsoil irrigation field distribution piping shall be laid on the filter material in an approved manner. The perforated section shall then be covered with filter material to the minimum depth in accordance with Table 1502.11.3. The filter material shall then be covered with 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.

1502.11.3.3 Subsoil Irrigation Field Construction. Subsoil irrigation fields shall be constructed in accordance with Table 1502.11.3. Where necessary on sloping ground to prevent excessive line slopes, irrigation lines shall be stepped. The lines between each horizontal leaching section shall be made with approved watertight joints and installed on natural or unfilled ground.

1502.11 (Formally 1602.11) Irrigation, Disposal Field and Mulch Basin Construction. [BSC-CG] Irrigation design shall be verified in accordance with the California Green Building Standards Code (CALGreen), Chapter 5, Division 5.3. Irrigation fields, disposal fields and mulch basins used in gray water systems shall comply with this section. Gray water systems may contain either a irrigation field or a disposal field or a combination of both. This section is not intended to prevent the use of other methods of gray water irrigation or disposal approved by the Enforcing Agency.

1502.11.1 (Formally 1602.11.1) Mulch Basin. A mulch basin may be used as an irrigation or disposal field. Mulch basins shall be ...

1502.11.2 (Formally 1602.11.2) Irrigation Field. The provisions of this section are not intended to prevent the use of any ...

- (1) Filters used in gray water irrigation systems shall be as specified by the manufacturer's installation instructions for the design flow rate ...
- (2) Emitters shall be designed to resist root intrusion and shall be of a design recommended by the manufacturer for the ...
- (3) Each irrigation zone shall be designed to include no less than the number of emitters specified in Table 1602.11, or through a ...
- (4) The system design shall provide user controls, such as valves, switches, timers and other controllers, ...
- (5) All drip irrigation supply lines shall be polyethylene tubing or PVC Class 200 pipe or better and Schedule 40 fittings. All joints shall be ...
- (6) Where pressure at the discharge side of the pump exceeds 20 psi (138 kPa), a pressure-reducing valve able to maintain downstream ...
- (7) When an irrigation system utilizes a pump, and discharges water at a point higher than the pump, a backwater valve shall ...

**TABLE 1502.11 (Formally 1602.11)
SUBSURFACE IRRIGATION DESIGN
CRITERIA FOR SIX TYPICAL SOILS**

TYPE OF SOIL	MAXIMUM EMITTER DISCHARGE	MINIMUM NUMBER OF EMITTERS PER GALLON OF ESTIMATED GRAY WATER DISCHARGE PER DAY*
	gallon per day	gallon per day
Sand	1.8	0.6
Sandy loam	1.4	0.7
Loam	1.2	0.9
Clay loam	0.9	1.1
Silty clay	0.6	1.6
Clay	0.5	2.0

For SI units: 1 gallon per day = 0.000043 L/s

* The estimated gray water discharge per day shall be determined in accordance with Section 1602.8 of this code.

1502.11.3 (Formally 1602.11.3) Disposal Field. *The provisions of this section are not intended to prevent the use of ...*

(A) *Disposal systems shall be not less than three (3) inches (80 mm) in cross sectional dimension and shall be constructed of ...*

(B) *Filter material, clean stone, gravel, slag, or similar filter material acceptable to the Enforcing Agency, varying in size from ...*

Exception: *Manufactured leaching chambers shall be installed in compliance with ...*

(C) *Disposal fields shall be constructed in accordance with Table 1502.11.3 1602.11.3.*

(D) *When necessary on sloping ground to prevent excessive line slopes, disposal lines shall be stepped or installed on the contour ...*

**TABLE 1502.11.3 (Formally 1602.11.3)
SUBSOIL IRRIGATION FIELD CONSTRUCTION**

DESCRIPTION	MINIMUM	MAXIMUM
Number of drain lines per valved zone ¹	1	-
Length of each perforated line ¹	-	100 feet
Bottom width of trench ¹	12 inches	18 24 inches
Spacing of lines, center to center ¹	4 feet	-
Depth of earth cover of lines	10 inches	-
Depth of filter material cover of lines	2 inches	-
Depth of filter material beneath lines ¹	3 inches	-
Grade of perforated lines level	level	3 inches per 100 feet

For SI units: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 inch per foot = 83.3 mm/m

¹ *Manufactured leaching chambers shall be installed in compliance with the manufacturer's installation instructions.*

1502.12 (Formally 1602.12) Gray Water System Color and Marking Information. Pressurized gray water distribution systems shall be identified as containing nonpotable water in accordance with Section 601.3 of this code. *Marking shall be at intervals not to exceed 5 feet (1,524mm). Gray water distribution piping upstream of any connection to an irrigation or disposal field or a distribution valve shall be identified with the words "CAUTION: NONPOTABLE GRAY WATER, DO NOT DRINK."*

1502.13 (Formally 1602.13) Special Provisions.

~~1502.13~~ 1502.13.1 (Formally 1602.13.1) Other Collection and Distribution Systems. Other collection and distribution systems shall be approved as allowed by Section 301.3 of this code.

~~1502.13.1~~ 1502.13.2 Higher Requirements. Nothing contained in this chapter shall be construed to prevent the Authority Having Jurisdiction from requiring compliance with higher requirements than those contained herein, where such higher requirements are essential to maintain a safe and sanitary condition.

1502.13.3 (Formally 1602.13.2) Future Connections. *Gray water stub-out plumbing may be allowed for future connection prior to the installation of irrigation lines and landscaping. Stub-out shall be permanently marked "CAUTION: NONPOTABLE GRAY WATER, DO NOT DRINK."*

1502.14 (Formally 1602.14) Testing. Building drains and vents for gray water systems shall be tested in accordance with this code. Surge tanks shall be filled with water ...

1502.15 (Formally 1602.15) Maintenance. Gray water systems and components shall be ...

1503.0 (Formally 1603.0) (Reserved)

1504.0 (Formally 1604.0) On-Site Treated Nonpotable Gray Water Systems.

1504.1 (Formally 1604.1) General. The provisions of this section shall apply to the installation, construction, alteration, and repair of on-site treated nonpotable *gray* water systems intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, above and belowground irrigation, and other uses approved by the Authority Having Jurisdiction.

Other approved nonpotable water sources including swimming pool backwash operations, air conditioner condensate, rainwater, cooling tower blow-down water, foundation drainage, steam system condensate, fluid cooler discharge water, food steamer discharge water, combination oven discharge water, industrial process water, and fire pump test water may be ...

1504.2 (Formally 1604.2) Plumbing Plan Submission. No permit for an on-site treated nonpotable *gray* water system shall be issued until ...

1504.3 (Formally 1604.3) System Changes. No changes or connections shall be made to either the on-site treated nonpotable *gray* ...

1504.4 (Formally 1604.4) Connections to Potable or Reclaimed (Recycled) Water Systems. On-site treated nonpotable *gray* water systems shall have no *unprotected* connection to a potable water supply or reclaimed (recycled) water source system. Potable, or reclaimed (recycled) water is permitted to be used as makeup water for a non-pressurized storage tank provided the makeup water supply is protected by an

air gap, *reduced-pressure principle backflow preventer* or other physical device which prevents backflow in accordance with this code.

1504.5 (Formally 1604.5) Initial Cross-Connection Test. A cross-connection test is required in accordance with Section 1501.11.2. Before ...

1504.6 (Formally 1604.6) On-Site Treated Nonpotable Gray Water System Materials. On-site treated nonpotable *gray water* supply and distribution system ...

1504.7 (Formally 1604.7) On-Site Treated Nonpotable Gray Water Devices and Systems. Devices or equipment used to treat on-site treated nonpotable *gray water* in ...

1504.8 (Formally 1604.8) On-Site Treated Nonpotable Gray Water System Color and Marking Information. On-site treated *nonpotable gray water* systems shall have a colored background and marking ...

1504.9 (Formally 1604.9) Valves. Valves, except fixture supply control valves, shall be equipped with a locking feature.

1504.10 (Formally 1604.10) Design and Installation. The design and installation of on-site treated nonpotable *gray water* systems shall be in accordance with Section 1504.10.1 through Section ~~1604.10.6~~. 1504.10.5.

1504.10.1 (Formally 1604.10.1) Listing Terms and Installation Instructions. On-site treated nonpotable *gray water* systems shall be ...

1504.10.2 (Formally 1604.10.2) Minimum Water Quality. On-site treated nonpotable *gray water* supplied to toilets or urinals or for other uses in which it ...

1504.10.3 (Formally 1604.10.3) Deactivation and Drainage. The on-site treated nonpotable *gray water* system and the potable water system within the building ...

1504.10.4 (Formally 1604.10.4) Near Underground Potable Water Pipe. On-site treated nonpotable *gray water* pipes shall be...

1504.10.5 (Formally 1604.10.5) Required Filters. A filter permitting the passage of particulates no larger than 100 microns (100 μm) shall be ...

1504.10.6 (Formally 1604.10.6) Disinfection. *Where the intended use of on-site treated non potable gray water requires disinfection and/or other treatment, on-site treated ...*

1504.11 (Formally 1604.11) Signs. Signs in buildings using on-site treated nonpotable *gray* ...

ITEM 14. BSC proposes to adopt Chapter 16 of the 2015 UPC with the following amendments.

**CHAPTER 16 (Formally Chapter 17)
NONPOTABLE RAINWATER CATCHMENT SYSTEMS**

1601.0 (Formally 1701.0) General.

1601.1 (Formally 1701.1) Applicability. The provisions of this chapter shall apply to the installation, construction, alteration, and repair of nonpotable rainwater catchment systems. *In addition, applicable provisions in Chapter 16, Sections 1601.0 through 1601.9 for "Alternate Water Sources For Nonpotable Applications" shall apply to rainwater catchment systems.*

1601.2 System Design. Rainwater catchment systems shall be designed in accordance with this chapter by a person registered or licensed to perform plumbing design work or who demonstrates competency to design the rainwater catchment system as required by the Authority Having Jurisdiction. Components, piping, and fittings used in a rainwater catchment system shall be listed.

Exceptions:

(1) A person registered or licensed to perform plumbing design work is not required to design rainwater catchment systems used for irrigation with a maximum storage capacity of 360 gallons (1363 L).

(2) A person registered or licensed to perform plumbing design work is not required to design rainwater catchment systems for single family dwellings where outlets, piping, and system components are located on the exterior of the building.

1601.3 (Formally 1702.2.1) Permit. ~~It shall be unlawful for a person to construct, install, alter, or cause to be constructed, installed, or altered a nonpotable rainwater catchment system in a building or on a premise without first obtaining a permit to do such work from the Authority Having Jurisdiction.~~

Permit. It shall be unlawful for a person to construct, install, alter, or cause to be constructed, installed, or altered a *nonpotable* rainwater catchment system in a building or on a premise without first obtaining a permit to do such work from the Authority Having Jurisdiction.

Exceptions:

(1) A permit is not required for exterior rainwater catchment systems used for outdoor ~~drip~~ *non-spray irrigation with a maximum storage capacity of 5000 gallons (18 927L) where the tank is supported directly upon grade and the ratio of height to diameter or width does not exceed 2 to 1, and it does not require electrical power or a makeup water supply connection.* ~~and subsurface irrigation with a maximum storage capacity of 360 gallons (1363 L).~~

(2) A plumbing permit is ...

1601.4 Component Identification. ~~System components shall be properly identified as to the manufacturer.~~

1601.5 Maintenance and Inspection. Rainwater catchment systems and components shall be inspected and maintained in accordance with ~~Section 1601.5.1 through Section 1601.5.3.~~ the manufacturers recommendations and/or required by the enforcing agency.

1601.5.1 Frequency. Rainwater catchment systems and components shall be inspected and maintained in accordance with Table 1601.5 unless more frequent inspection and maintenance is required by the manufacturer.

1601.5.2 Maintenance Log. A maintenance log for rainwater catchment systems is required to have a permit in accordance with Section 1601.3 and shall be maintained by the property owner and be available for inspection. The property owner or designated appointee shall ensure that a record of testing, inspection, and maintenance in accordance with Table 1601.5 is maintained in the log. The log will indicate the frequency of inspection and maintenance for each system.

1601.5.3 1601.5.1 Maintenance Responsibility. The required maintenance and inspection of rainwater catchment systems shall be the responsibility of the property owner, unless otherwise required by the Authority Having Jurisdiction.

1601.6 Operation and Maintenance Manual. An operation and maintenance manual for rainwater catchment systems required to have a permit in accordance with Section 1601.3, shall be supplied to the building owner by the system designer or installer. The operating and maintenance manual shall include the following:

- (1) Detailed diagram Diagram(s) of the entire system and the location of system components.
- (2) Instructions on operating and maintaining the system.
- (3) Details Instructions on maintaining the required water quality as determined by the Authority Having Jurisdiction for rainwater catchment systems.
- (4) Details on startup, shutdown, and deactivating the system for maintenance, repair, or other purposes.
- (5) Applicable testing, inspection, and maintenance frequencies in accordance with Table Section 1601.5.
- (6) A method of contacting the Installer and/or manufacturer(s).
- (7) Directions to the owner of occupant that the manual shall remain with the building throughout the life cycle of the structure.

1601.7 (Formally 1702.9.4) Minimum Water Quality Requirements. The minimum water quality for rainwater catchment systems shall comply with the applicable water quality requirements for the intended application as determined by the Authority Having Jurisdiction. Water quality for nonpotable rainwater catchment systems shall comply with Section 1602.9.4. *In the absence of water quality requirements for harvested rainwater, Table 1702.9.4 1602.9.4 shall apply.*

Exceptions:

- (1) Water treatment is not required for rainwater catchment systems used for aboveground irrigation with a maximum storage capacity of 360 gallons (1363 L).
- (2) Water treatment is not required for rainwater catchment systems used for surface, subsurface or drip irrigation.

1601.8 Material Compatibility. Rainwater catchment systems shall be constructed of materials that are compatible with the type of pipe and fitting materials, water treatment, and water conditions in the system.

1601.9 System Controls. Controls for pumps, valves, and other devices that contain mercury that come in contact with rainwater supply shall not be permitted.

1601.10 Separation Requirements. Underground rainwater catchment service piping shall be separated from the building sewer in accordance with Section 609.2. Treated nonpotable water pipes shall be permitted to be run or laid in the same trench as potable water pipes with a 12 inch (305 mm) minimum vertical and horizontal separation where both pipe materials are approved for use within a building. Where

~~horizontal piping materials do not meet this requirement the minimum separation shall be increased to 60 inches (1524 mm). The potable water piping shall be installed at an elevation above the treated nonpotable water piping.~~

~~**1601.11 Abandonment.** Rainwater catchment systems that are no longer in use, or fail to be maintained in accordance with Section 1601.5, shall be abandoned. Abandonment shall comply with Section 1601.11.1 and Section 1601.11.2.~~

~~**1601.11.1 General.** An abandoned system or part thereof covered under the scope of this chapter shall be disconnected from remaining systems, drained, plugged, and capped in an approved manner.~~

~~**1601.11.2 Underground Tank.** An underground water storage tank that has been abandoned or otherwise discontinued from use in a system covered under the scope of this chapter shall be completely drained and filled with earth, sand, gravel, concrete, or other approved material or removed in a manner satisfactory to the Authority Having Jurisdiction.~~

~~**1601.12 Sizing.** Unless otherwise provided for in this chapter, rainwater catchment piping shall be sized in accordance with Chapter 6 for sizing potable water piping.~~

1602.0 (Formally 1702.0) Nonpotable Rainwater Catchment Systems.

1602.1 (Formally 1702.1) General. The installation, construction, alteration, and repair of rainwater catchments systems intended to supply uses such ...

1602.2 (Formally 1702.2) Plumbing Plan Submission. No permit for a rainwater catchment system shall be issued until complete plumbing plans, with

1602.3 (Formally 1702.3) System Changes. No changes or connections shall be made to either the rainwater catchment system or the potable water system ...

1602.4 (Formally 1702.4) Connections to Potable or Reclaimed (Recycled) Water Systems. Rainwater catchment systems shall have no *unprotected* connection to a potable water supply ...

1602.5 (Formally 1702.5) Initial Cross-Connection Test. Where a portion of a rainwater catchment system is installed within a building, a ...

1602.6 (Formally 1702.6) Sizing. Rainwater catchment system distribution piping for indoor applications shall be sized as outlined in this code for sizing ...

1602.7 (Formally 1702.7) Rainwater Catchment System Materials. Rainwater catchment system materials shall comply ...

1602.7.1 (Formally 1702.7.1) Water Supply and Distribution Materials. Rainwater catchment water supply and distribution materials shall comply with the ...

1602.7.2 (Formally 1702.7.2) Rainwater Catchment System Drainage Materials. Materials used in rainwater catchment drainage systems, including ...

1602.7.3 (Formally 1702.7.3) Storage Tanks. Rainwater storage tanks shall comply with ...

~~**1602.7.4 Collection Surfaces.** The collection surfaces shall be constructed of a hard, impervious material.~~

1602.8 (Formally 1702.8) Rainwater Catchment System Color and Marking Information. Rainwater catchment systems shall have a colored ...

1602.9 (Formally 1702.9) Design and Installation. The design and installation of nonpotable rainwater catchment systems shall be in ...

1602.9.1 (Formally 1702.9.1) Outside Hose Bibbs. Outside hose bibbs shall be allowed on rainwater piping systems. Hose bibbs supplying rainwater shall be ...



Figure 1602.9 (Formally 1702.9)

1602.9.2 (Formally 1702.9.2) Deactivation and Drainage for Cross-Connection Test. The rainwater catchment system and the potable water system within the building ...

1602.9.3 (Formally 1709.9.3 Collection Surfaces) Rainwater Catchment System Surfaces. Rainwater shall be collected from roof surfaces or other manmade, aboveground collection surfaces. ~~Rainwater shall be collected from roof surfaces or other impervious manmade, above-ground collection surfaces. Rainwater collected from surface water runoff, vehicular parking surfaces or manmade surfaces at or below grade shall comply with the water quality requirements for on-site treated nonpotable gray water in Section 1604.0 1504.0.~~

Exception: *Collected rainwater or storm water used exclusively for subsurface landscape irrigation.*

~~**1602.9.3.1 Other Surfaces.** Natural precipitation collected from surface water runoff, vehicular parking surfaces, or manmade surfaces at or below grade shall be in accordance with the stormwater requirements for on-site treated nonpotable water systems in Section 1504.0.~~

1602.9.3.2 1602.9.3.1 (Formally 1702.9.3.1) Prohibited Discharges. Overflows and bleed-off pipes from roof-mounted equipment and appliances shall not discharge onto roof surfaces that are intended to collect rainwater.

1602.9.4 Minimum Water Quality. The minimum water quality for harvested rainwater shall meet the applicable water quality requirements for the intended applications as determined by the Authority Having Jurisdiction. In the absence of water quality requirements determined by the Authority Having Jurisdiction, the minimum treatment and water quality shall be in accordance with Table 1602.9.4. ~~In the absence of water quality requirements for harvested rainwater Table 1702.9.4 shall apply.~~

Exception: [BSC] No treatment is required for rainwater used for non-spray irrigation where the maximum storage volume is less than 5000 gallons (18 927L) where the tank is supported directly upon grade and the ratio of height to diameter or width does not exceed 2 to 1.

1602.9.4.1 Disinfection. Where the initial quality of the collected rainwater requires disinfection or other treatment or both, the collected rainwater shall be treated as necessary to ensure the required water quality is delivered at the point of use. Where chlorine is used for disinfection or treatment, water shall be tested for residual chlorine in accordance with ASTM D 1253. The levels of residual chlorine shall not exceed the levels allowed for the intended use in accordance with the requirements of the local enforcing agency.

**TABLE 1702.9.4
MINIMUM TREATMENT AND WATER QUALITY FOR RAINWATER**

Application	Minimum Treatment	Minimum Water Quality
<i>Car washing</i>	<ul style="list-style-type: none"> • Debris excluder or other approved means in compliance with Section 1702.9.10 • 100 Micron (100 µm) in compliance with Section 1702.9.11 for drip irrigation 	N/A
<i>Surface, subsurface and drip irrigation</i>	<ul style="list-style-type: none"> • Debris excluder or other approved means in compliance with Section 1702.9.10 • 100 Micron (100 µm) in compliance with Section 1702.9.11 for drip irrigation 	N/A
<i>Spray irrigation where the maximum storage volume is less than less than 360 gallons (1363 L)</i>	<ul style="list-style-type: none"> • Debris excluder or other approved means in compliance with Section 1702.9.10 	N/A
<i>Spray irrigation where the maximum storage volume is equal to or greater than 360 gallons (1363 L)</i>	<ul style="list-style-type: none"> • Debris excluder or other approved means in compliance with Section 1702.9.10 	<ul style="list-style-type: none"> • Escherichia coli: < 100 CFU/100 mL • Turbidity: < 10 NTU
<i>Urinal and water closet flushing, clothes washing, and</i>	<ul style="list-style-type: none"> • Debris excluder or other approved means in 	<ul style="list-style-type: none"> • Escherichia coli: < 100 CFU/100 mL

<i>trap priming</i>	<ul style="list-style-type: none"> <i>compliance with Section 1702.9.10</i> • <i>100 Micron (100 μm) in compliance with Section 1702.9.11</i> 	<ul style="list-style-type: none"> • <i>Turbidity: < 10 NTU</i>
<i>Ornamental fountains and other water features</i>	<ul style="list-style-type: none"> • <i>Debris excluder or other approved means in compliance with Section 1702.9.10</i> 	<ul style="list-style-type: none"> • <i>Escherichia coli: < 100 CFU/100 mL</i> • <i>Turbidity: < 10 NTU</i>
<i>Cooling tower make-up water</i>	<ul style="list-style-type: none"> • <i>Debris excluder or other approved means in compliance with Section 1702.9.10</i> • <i>100 Micron (100 μm) in compliance with Section 1702.9.11</i> 	<ul style="list-style-type: none"> • <i>Escherichia coli: < 100 CFU/100 mL</i> • <i>Turbidity: < 10 NTU</i>

**TABLE 1602.9.4
MINIMUM WATER QUALITY**

APPLICATION	MINIMUM TREATMENT	MINIMUM WATER QUALITY
Car washing	Debris excluder or other approved means in accordance with Section 1602.9.10, and 100 Micron (100 μm) in accordance with Section 1602.9.11 for drip irrigation.	N/A
Subsurface and drip irrigation	Debris excluder or other approved means in compliance with Section 1602.9.10, and 100 Micron (100 μm) in accordance with Section 1702.9.11 for drip irrigation.	N/A
Spray irrigation where the maximum storage volume is less than 360 gallons (1363 L)	Debris excluder or other approved means in accordance with Section 1602.9.10, and disinfection in accordance with Section 1602.9.8.	N/A
Spray irrigation where the maximum storage volume is equal to or more than 360 gallons (1363 L)	Debris excluder or other approved means in accordance with Section 1602.9.10.	Escherichia coli: < 100 CFU/100 mL, and Turbidity: < 10 NTU
Urinal and water closet flushing, clothes washing, and trap priming	Debris excluder or other approved means in accordance with Section 1602.9.10, and 100 Micron (100 μm) in accordance with	Escherichia coli: < 100 CFU/100 mL, Turbidity: < 10 NTU

	Section 1602.9.11.	
Ornamental fountains and other water features	Debris excluder or other approved means in accordance with Section 1602.9.10.	Escherichia coli: < 100 CFU/100 mL, Turbidity: < 10 NTU
Cooling tower make up water	Debris excluder or other approved means in accordance with Section 1602.9.10, and 100 Micron (100 μ m) in accordance with Section 1602.9.11.	Escherichia coli: < 100 CFU/100 mL, Turbidity: < 10 NTU

For SI units: 1 micron = 1 μ m, 1 gallon = 3.785 L

1602.9.5 (Formally 1702.9.5 Rainwater Storage Tanks. Rainwater storage tanks shall be constructed and installed in accordance with Section 1602.9.5.1 through Section 1602.9.5.8.

1602.9.5.1 (Formally 1702.9.5.1 Construction. Rainwater storage shall be constructed of solid, durable materials not subject to excessive corrosion ...

1602.9.5.2 (Formally 1702.9.5.2) Location. Rainwater storage tanks shall be permitted to be installed above or below grade.

1602.9.5.3 (Formally 1702.9.5.3) Above Grade. Above grade storage tanks shall be of an opaque material, approved for aboveground use ...

1602.9.5.4 (Formally 1702.9.5.4) Below Grade. Rainwater storage tanks installed below grade shall be structurally designed to withstand ... provided with manholes. *Below-grade storage tanks, located outside of the building, shall be provided with either a manhole not less than 24 inches (610 mm) square or a manhole with an inside diameter of not less than 24 inches (610 mm) Service ports in manhole covers shall be not less than 8 inches (203 mm) in diameter. The manhole opening shall be ...*

1602.9.5.5 (Formally 1702.9.5.5) Drainage and Overflow. Rainwater storage tanks shall be provided with a means of draining and cleaning. The overflow drain shall not be equipped with a shutoff valve. The ... valve or other approved method. *Backwater valves shall be installed so that access is provided to the working parts for service and repair.*

1602.9.5.5.1 (Formally 1702.9.5.5(A)) Overflow Outlet Size. The overflow outlet shall be sized to accommodate the flow of the rainwater entering the tank ...

1602.9.5.6 (Formally 1702.9.5.6(A)) Opening and Access Protection. Rainwater tank openings shall be protected to prevent the entrance of insects, birds, or rodents into the tank *and piping systems. Screens installed on vent pipes, inlets, and overflow pipes shall have an aperture of not greater than 1/16 of an inch (1.6mm) and shall be close fitting.*

Rainwater tank access openings exceeding 12 inches (305 mm) in ...

1602.9.5.6(BA) (Formally 1702.9.5.6(B)) Human Access. *A minimum of one access opening shall be provided to allow inspection and cleaning. Rainwater tank manholes and access openings shall be secured by either a lockable device or other approved method to prevent unauthorized access.*

1602.9.5.7 (Formally 1702.9.5.8) Marking. Rainwater tanks shall be permanently marked with the capacity and the language: "NONPOTABLE RAINWATER." ...

1602.9.5.8 Storage Tank Venting. Where venting by means of drainage or overflow piping is not provided, or is considered insufficient, a vent shall ...

1602.9.5.8 (Formally 1702.9.5.7) Venting. *Rainwater tanks shall be provided with a vent sized in accordance with this code, and based on the size ...*

1602.9.6 (Formally 1709.9.6) Pumps. Pumps serving rainwater catchment systems shall be listed. Pumps supplying water to water closets, urinals, and trap ...

1602.9.7 (Formally 1709.9.7) Roof Drains. Primary and secondary roof drains,...

1602.9.8 (Formally 1709.9.8) Water Quality Devices and Equipment. Devices and equipment used to treat rainwater to maintain the minimum water ...

1602.9.9 (Formally 1709.9.9) Freeze Protection. Tanks and piping installed in locations subject to ...

1602.9.10 (Formally 1709.9.10) Debris Removal. The rainwater catchment conveyance system shall be equipped with a debris ...

1602.9.11 (Formally 1709.0.11) Required Filters. A filter permitting the passage of particulates not larger than 100 microns (100 μ m) shall be provided for rainwater supplied to ...

1602.9.12 (Formally 1709.9.12) Roof Gutters. Gutters shall maintain a minimum slope and be sized in accordance ...

1602.10 (Formally 1702.10) Signs. Signs in buildings using rainwater water shall be in accordance with Section 1602.10.1 and Section 1602.10.2 *and shall comply with the California Building Code.*

1602.10.1 (Formally 1702.10.1) Commercial, Industrial, Institutional and Residential Restroom Signs. A sign shall be installed in restrooms in commercial, industrial, and institutional occupancies, *and shall also be installed in residential common use area restrooms* using nonpotable rainwater for water closets, urinals, or both. The number ...

1602.10.2 (Formally 1702.10.2) Equipment Room Signs. Each equipment room containing nonpotable rainwater equipment shall have a sign posted ...

1602.11 (Formally 1702.11) Inspection and Testing. Rainwater catchment systems shall be inspected

and tested in ...

1602.11.1 (Formally 1702.11.1) Supply System Inspection and Test. Rainwater catchment systems shall be inspected and tested in ...

1602.11.2 (Formally 1702.11.2) Cross-Connection Inspection and Testing. An initial inspection and test in accordance ...

1602.11.2.1 (Formally 1702.11.2.1) Visual System Inspection. Prior to commencing the cross-connection testing, a dual system ...

(1) Pumps, equipment, equipment room signs, and ...

1602.11.2.2 (Formally 1702.11.2.2) Cross-Connection Test. The procedure for determining cross-connection shall be followed by the ...

(1) The potable water system shall be ...

(2) The potable water system shall remain pressurized ...

(3) Fixtures, potable and rainwater, shall be tested and inspected ...

(4) The drain on the rainwater catchment water system shall be checked...

(5) The potable water system ...

(6) The rainwater catchment water system shall ...

(7) The rainwater catchment water system shall remain pressurized..

(8) Fixtures, potable and rainwater catchment, shall be ...

(9) The drain on the potable water system shall be checked for ...

(10) Where there is no flow detected in the fixtures which...

1602.11.2.3 (Formally 1702.11.2.3) Discovery of Cross-Connection. In the event that a cross-connection is discovered, the following procedure, in the ..

(1) Rainwater catchment water piping to the ...

(2) Potable water piping to the building shall be shut ...

(3) The cross-connection shall be ...

(4) The building shall be retested following procedures...

(5) The potable water system shall be chlorinated with 50 ppm ...

(6) The potable water system shall be flushed after 24 hours, and a ...

1602.11.2.4 Annual Inspection. ~~An annual inspection of the rainwater catchment water system, following the procedures listed in Section 1602.11.2.1 shall be required. Annual cross-connection testing, following the procedures listed in Section 1602.11.2.2 shall be required by the Authority Having Jurisdiction, unless site conditions do not require it. In no event shall the test occur less than once in 4 years. Alternate testing requirements shall be permitted by the Authority Having Jurisdiction.~~

Notation:

Authority: Health & Safety Code Sections 18928 and 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

ITEM 15. BSC proposes to adopt Chapter 17 of the 2015 UPC with the following amendments.

**TABLE 1701.1 (Formally 1401.1)
REFERENCED STANDARDS**

1701.0 (Formally 1401.0) General.

1701.1 (Formally 1401.1) Standards. The standards listed in Table 1701.1 are intended for use in the design, testing, and installation of materials, devices, appliances, and equipment regulated by this code.

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
...			
NSF 169 – 2009 2012	Special Purpose Food Equipment and Devices	Appliances	301.42.2, 301.2
NSF/ANSI 350 – 2011-2012 [BSC]	Onsite Residential and Commercial Water Reuse Treatment Systems, as amended* NSF/ANSI 350, amended sections follow: 5.6 Electrical components. Electrical components The California Electrical Code shall be followed for all electrical components, system installation, and system operation.	Miscellaneous	1604.10-21504.7
...			

Notation:

Authority: Health and Safety Code Sections 18928, 18930.5, 18941.8

Reference: Health and Safety Code Section 18941.8, Water Code Section 14877.1

ITEM 16. BSC proposes to adopt Appendix A, B, D, H, I, and J of the 2015 UPC without amendments.

Notation:

Authority: Health & Safety Code Sections 18928 and 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

**ADDENDUM TO FINAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
CALIFORNIA BUILDING STANDARDS COMMISSION (BSC)**

**REGARDING PROPOSED ADOPTION OF THE 2015
UNIFORM PLUMBING CODE (UPC) FOR THE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5**

(The State agency shall draft the regulations in plain, straightforward language, avoiding technical terms as much as possible and using a coherent and easily readable style. The agency shall draft the regulation in plain English. A notation shall follow the express terms of each regulation listing the specific statutes authorizing the adoption and listing specific statutes being implemented, interpreted, or made specific. (PART 1 – ADMINISTRATIVE CODE)

LEGEND FOR EXPRESS TERMS

1. Existing California amendments or code language being modified are in italics when they appear in the model code text: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears underlined and in italics.
3. Repealed text: All such language appears in ~~strikeout~~.
4. Notation: Authority and reference citations are provided at the end of each chapter.

FINAL EXPRESS TERMS

ITEM 12. BSC proposes to NOT adopt Chapter 14 of the 2015 UPC with the following amendments.

**CHAPTER 14
FIRESTOP PROTECTION**

Notation:

Authority: Health & Safety Code Sections 18928 and 18934.5

Reference(s): Health & Safety Code Sections 18928, 18928.1 and 18934.5

**FINAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DIVISION OF THE STATE ARCHITECT (DSA-AC)**

**REGARDING PROPOSED CHANGES TO
THE CALIFORNIA PLUMBING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5**

**2016 CALIFORNIA PLUMBING CODE
TRIENNIAL CODE CYCLE**

LEGEND FOR EXPRESS TERMS

1. Existing California amendments or code language being modified are in italics when they appear in the model code text: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears *underlined and in italics*.
3. Repealed text: All such language appears in ~~strikeout~~.

FINAL EXPRESS TERMS

DSA-AC proposes to carry forward its adoption of existing California amendments from the 2013 CA Plumbing Code into the 2016 CA Plumbing Code, with further amendment as indicated.

**CHAPTER 1
SCOPE AND ADMINISTRATION
DIVISION I
CALIFORNIA ADMINISTRATION**

ITEM 1.00

CHAPTER 1, DIVISION I – MATRIX ADOPTION TABLE

Adopting Agency	DSA-AC
Adopt entire California Chapter	
Adopt entire California Chapter as amended (amended Sections listed below)	
Adopt only those Sections that are listed below	X
Chapter / Section	
1.9.0	X
1.9.1	X
<u>1.9.1.1</u>	<u>X</u>

ITEM 1.01

**SECTION 1.9
DIVISION OF THE STATE ARCHITECT**

1.9.1 Division of the State Architect – Access Compliance.

Note: For applications listed in Section 1.9.1 of the California Building code, regulated by the Division of the State Architect—Access Compliance, see California Code of Regulations, Title 24, Part 2 (California Building Code), Chapter 1 (Division 1 California Administration) under authority cited by Government Code Section 4450 and in reference cited by Government Code Section 4450 through 4461, 12955.1, and Health and Safety Code Sections 18949.1, 19952 through 19959.

Buildings or facilities where accessibility is required for applications listed in California Code of Regulations, Title 24, Part 2 (California Building Code), Chapter 1, Section 1.9.1 regulated by the Division of the State Architect—Access Compliance shall comply with Title 24, Part 2, Chapter 11A or 11B, as applicable under authority cited by CA Government Code Section 4450 and in reference cited by CA Government Code Sections 4450 through 4461, 12955.1(c), and CA Health and Safety Code Sections 18949.1, 19952 through 19959.

1.9.1.1 Adopting agency identification. The provisions of this code applicable to buildings identified in this Subsection 1.9.1 will be identified in the Matrix Adoption Tables under the acronym DSA-AC.

**CHAPTER 4
PLUMBING FIXTURES AND FIXTURE FITTINGS**

ITEM 4.00

CHAPTER 4 – MATRIX ADOPTION TABLE

Adopting Agency	DSA-AC
Adopt entire Chapter	
Adopt entire Chapter as amended (amended Sections listed below)	
Adopt only those Sections that are listed below	X
Chapter / Section	
Note under chapter title	X
<u>422.1.2</u>	<u>X</u>
Table 422.1, <u>Note 4</u>	X

ITEM 4.01

**CHAPTER 4
PLUMBING FIXTURES AND FIXTURE FITTINGS**

Note: In addition the requirements of this chapter, which provide access to, or egress from, buildings or facilities where accessibility is required for applications listed in Section 109, of the California Building Code, regulated by the Division of the State Architect—Access Compliance shall also comply with Chapter 11A for public housing and Chapter 11B for public accommodations under authority cited by Gov. Code §4450 and in reference cited by Gov. Code §4450 through 4461, 12955.1 and H&SC §18949.1, 19952 through 19959.

In addition to the requirements of this chapter, buildings or facilities where accessibility is required for applications listed in California Code of Regulations, Title 24, Part 2 (California Building Code), Chapter 1, Section 1.9.1 regulated by the Division of the State Architect—Access Compliance shall also comply with Title 24, Part 2, Chapter 11A or 11B, as applicable under authority cited by CA Government Code Section 4450 and in reference cited by CA Government Code Sections 4450 through 4461, 12955.1(c), and CA Health and Safety Code Sections 18949.1, 19952 through 19959.

ITEM 4.02

422.0 Minimum Number of Required Fixtures.

422.1 Fixture Count. ...

422.1.2 [DSA-AS] [DSA-AC] *Effective January 1, 1990, in new construction and those existing facilities which occupancy type are listed in Tables 422.1 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 422.1 and 4-4 for public use. Community and/or municipal parks with a bleacher capacity not exceeding 500 seats shall be exempt from the requirements of this section and Tables 422.1 and 4-4. Each bathroom shall comply with Part 2, Chapter 11A and 11B of the California Building Code.*

ITEM 4.03

422.0 Minimum Number of Required Fixtures.

422.1 Fixture Count. ...

**TABLE 422.1
MINIMUM PLUMBING FACILITIES ...**

Notes:

1 ...

2 ...

3 ...

4 [DSA-AC] *In accordance with Sections 1.8.7 and ~~301.2~~ 301.3, the Authority Having Jurisdiction may approve alternative designs criteria when determining the minimum number of plumbing fixtures.*

Notation

Authority: Government Code Section 4450.

References: Government Code Sections 4450 through 4461, and 12955.1(c); Health and Safety Code Sections 18949.1, 19952 through 19959

**FINAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DIVISION OF THE STATE ARCHITECT - STRUCTURAL SAFETY (DSA-SS AND DSA-SS/CC)

REGARDING PROPOSED CHANGES TO
CALIFORNIA PLUMBING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5**

The California Building Standards Code (California Code of Regulations, Title 24, Part 1, 2, 2.5, 3, 4, 5, 6, 8, 9, 10, 11, and 12) is published in its entirety every three years and is applicable to all buildings for which an application for a building permit is made during the Code's effective period. Each triennial edition of the California Building Standards Code becomes effective 180 days after its publication.

These proposed regulations will make effective the 2015 edition of the Uniform Plumbing Code (UPC) as the 2016 edition California Plumbing Code (CPC), for application by DSA-SS (Division of the State Architect – Structural Safety) to public elementary and secondary schools, community colleges, and state-owned or state-leased essential services buildings.

These proposed regulations will also make effective the 2015 edition of the UPC as the 2016 edition CPC, for application by DSA-SS/CC (Division of the State Architect – Structural Safety/Community Colleges) to community colleges, which a community college district may elect to use in lieu of standards promulgated by DSA-SS (refer to Education Code Section 81053).

Further, these proposed regulations will repeal the 2012 edition UPC articles adopted as the 2013 edition CPC.

LEGEND FOR EXPRESS TERMS

1. Existing California amendments or code language being modified are in *italics* when they appear in the model code text: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears underlined and in italics.
3. Repealed text: All such language appears in ~~strikeout~~.

EXPRESS TERMS

**CALIFORNIA PLUMBING CODE
CHAPTER 1 - ADMINISTRATION**

Continue Chapter 1, Division I (California Administration) of the 2013 triennial edition of the CPC for publication in the 2016 triennial edition of the CPC, with DSA proposed editorial amendments as shown below:

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt only those sections that are listed below	X	X	
1.1.1 Title	X	X	
1.1.2 Purpose	X	X	
1.1.3 Scope	X	X	DSA-SS adopts Item 11 of Article 1.1.3.

1.1.4 Appendices	X	X	
1.1.5 Referenced Codes	X	X	
1.1.6 Non-Building Standards, Orders and Regulations	X	X	
1.1.7 Order of Precedence and Use	X	X	
1.1.8 City, County, or City and County Amendments, Additions or Deletions	X	X	
1.1.9 Effective Date of this Code	X	X	
1.1.10 Availability of Codes	X	X	
1.1.11 Format	X	X	
1.1.12 Validity	X	X	
1.9.0 Division of the State Architect			
1.9.1 (Reserved for the DSA-AC)			
1.9.2 DSA-SS	X		
1.9.2.1 DSA-SS	X		
1.9.2.2 DSA-SS/CC		X	

**CHAPTER 1
ADMINISTRATION
DIVISION I
CALIFORNIA ADMINISTRATION**

1.1.0 General.

1.1.1 Title. *These regulations shall be known as the California Plumbing Code, may be cited as such and will be referred to herein as "this code." The California Plumbing Code is Part 5 of twelve parts of the official compilation and publication of the adoption, amendment, and repeal of plumbing regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the 2012 2015 Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials with necessary California amendments.*

1.1.2 Purpose. *The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation, and energy conservation; safety to life and property from fire and other hazards attributed to the built environment; and to provide safety to fire fighters and emergency responders during emergency operations.*

1.1.3 Scope. *The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout the State of California.*

1.1.3.1 Non-State-Regulated Buildings, Structures, and Applications. *Except as modified by local ordinance pursuant to Section 1.1.8, the following standards in the California Code of Regulations, Title 24, Parts 2, 2.5, 3, 4, 5, 6, 9, 10 and 11 shall apply to all occupancies and applications not regulated by a state agency.*

1.1.3.2 State-Regulated Buildings, Structures, and Applications. *The model code, state amendments to the model code, and/or state amendments where there are no relevant model code provisions, shall*

apply to the following buildings, structures, and applications regulated by state agencies as referenced in the Matrix Adoption Tables and as specified in Section 1.2.0 through 1.14.0, except where modified by local ordinance pursuant to Section 1.1.8. When adopted by a state agency, the provisions of this code shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by the state Legislature.

Note: See Preface to distinguish the model code provisions from the California provisions.

- 1) ...
- 2) ...
- 3) ...
- 4) ...
- 5) ...
- 6) ...
- 7) ...
- 8) ...
- 9) ...
- 10) ...
- 11) *Public elementary and secondary schools, community college buildings and state-owned or state-leased essential service buildings regulated by the Division of the State Architect. See Section 1.9.2 for additional scope provisions.*
- 12) ...
- 13) ...
- 14) ...
- 15) ...
- 16) ...
- 17) ...
- 18) ...

1.1.4 Appendices. Provisions contained in the appendices of this code shall not apply unless specifically adopted by a state agency or adopted by a local enforcing agency in compliance with Health and Safety Code Section 18901 et. seq. for Building Standards Law, Health and Safety Code Section 17950 for State Housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts. See Section 1.1.8 of this code.

1.1.5 Referenced Codes. The codes, standards and publications adopted and set forth in this code, including other codes, standards and publications referred to therein are, by title and date of publication, hereby adopted as standard reference documents of this code. When this code does not specifically cover any subject related to building design and construction, recognized architectural or engineering practices shall be employed. The National Fire Codes, standards, and the Fire Protection Handbook of the National Fire Protection Association are permitted to be used as authoritative guides in determining recognized fire prevention engineering practices.

1.1.6 Non-Building Standards, Orders and Regulations. Requirements contained in the Uniform Plumbing Code, or in any other referenced standard, code or document, which are not building standards as defined in Health and Safety Code Section 18909, shall not be construed as part of the provisions of this code. For nonbuilding standards, orders, and regulations, see other titles of the California Code of Regulations.

1.1.7 Order of Precedence and Use.

1.1.7.1 Differences. In the event of any differences between these building standards and the standard reference documents, the text of these building standards shall govern.

1.1.7.2 Specific Provisions. *Where a specific provision varies from a general provision, the specific provision shall apply.*

1.1.7.3 Conflicts. *When the requirements of this code conflict with the requirements of any other part of the California Building Standards Code, Title 24, the most restrictive requirements shall prevail.*

1.1.8 City, County, or City and County Amendments, Additions or Deletions.

...

1.1.9 Effective Date of this Code. *Only those standards approved by the California Building Standards Commission that are effective at the time an application for building permit is submitted shall apply to the plans and specifications for, and to the construction performed under, that permit. For the effective dates of the provisions contained in this code, see the History Note page of this code.*

1.1.10 Availability of Codes. *At least one complete copy each of Titles 8, 19, 20, 24, and 25 with all revisions shall be maintained in the office of the building official responsible for the administration and enforcement of this code. Each state department concerned and each city, county or city and county shall have an up-to-date copy of the code available for public inspection, See Health and Safety Code Section 18942 (d) (1) and (2).*

1.1.11 Format. *This part fundamentally adopts the Uniform Plumbing Code by reference on a chapter-by-chapter basis. When a specific chapter of the Uniform Plumbing Code is not printed in the code and is marked "Reserved", such chapter of the Uniform Plumbing Code is not adopted as a portion of this code. When a specific chapter of the Uniform Plumbing Code is marked "Not Adopted by the State of California" but appears in the code, it may be available for adoption by local ordinance.*

Note: *Matrix Adoption Tables at the front of each chapter may aid the code user in determining which chapter or sections within a chapter are applicable to buildings under the authority of a specific state agency, but are not to be considered regulatory.*

1.1.12 Validity. *If any chapter, section, subsection, sentence, clause or phrase of this code is for any reason held to be unconstitutional, contrary to statute, exceeding the authority of the state as stipulated by statutes or otherwise inoperative, such decision shall not affect the validity of the remaining portion of this code*

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1.9.0 Division of the State Architect.

1.9.1 (Reserved for DSA-AC)

1.9.2 Division of the State Architect - Structural Safety.

1.9.2.1 DSA-SS (Division of the State Architect – Structural Safety).

Application - *Public elementary and secondary schools, community college buildings, and state-owned or state-leased essential services buildings.*

Enforcing Agency – *{Division of the State Architect} – Structural Safety (DSA-SS).*

The Division of the State Architect has been delegated the responsibility and authority by the Department of General Services to review and approve the design and observe the construction of public elementary and secondary schools, community colleges, and state-owned or state-leased essential services buildings.

Authority Cited - Education Code Section 17310 and 81142, and Health and Safety Code Section 16022.

References - Education Code Sections 17280 through 17317 and 81130 through 81147, and Health and Safety Code Sections 16000 through 16023.

1.9.2.1.1 Adopting Agency Identification.

The provisions of this code applicable to buildings identified in this Subsection 1.9.2 will be identified in the Matrix Adoption Tables under the acronym DSA SS.

1.9.2.2 DSA-SS/CC (Division of the State Architect – Structural Safety/Community Colleges).

Application - Community Colleges.

The Division of the State Architect has been delegated the authority by the Department of General Services to promulgate alternate building standards for application to community colleges, which a community college may elect to use in lieu of standards promulgated by DSA-SS in accordance with Section 1.9.2.1. Refer to Title 24, Part 2, Section 1.9.2.2.

Enforcing Agency - Division of the State Architect – Structural Safety/Community Colleges (DSA-SS/CC)

The Division of the State Architect has been delegated the authority by the Department of General Services to review and approve the design and oversee observe construction of community colleges electing to use the alternative building standards as provided in this section.

Authority Cited - Education Code Section 81053.

References - Education Code Sections 81052, 81053, and 81130 through 81147.

1.9.2.2.1 Adopting Agency Identification.

The provisions of this code applicable to buildings identified in this Subsection 1.9.2.2 will be identified in the Matrix Adoption Tables under the acronym DSA SS/CC.

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**DIVISION II
 ADMINISTRATION**

...

**CALIFORNIA PLUMBING CODE
 CHAPTER 2 - DEFINITIONS**

Repeal Chapter 2 (Definitions) of the 2012 edition UPC.
 Adopt Chapter 2 (Definitions) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**CALIFORNIA PLUMBING CODE
CHAPTER 3 - GENERAL REGULATIONS**

Repeal Chapter 3 (General Regulations) of the 2012 edition UPC.
Adopt Chapter 3 (General Regulations) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**CALIFORNIA PLUMBING CODE
CHAPTER 4 - PLUMBING FIXTURES AND FIXTURE FITTINGS**

Repeal Chapter 4 (Plumbing Fixtures and Fixture Fittings) of the 2012 edition UPC.
Adopt Chapter 4 (Plumbing Fixtures and Fixture Fittings) of the 2015 edition UPC with existing DSA amendments continued and proposed editorial amendments shown below for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			
Adopt Entire Chapter as amended (amended sections listed below)	X	X	
<u>407.2.2.1 Metering Faucet Flow Rate</u>	X	X	
<u>408.2.1 Single Shower Head Flow Rate</u>	X	X	
<u>408.2.2 Multiple Shower Head Flow Rate</u>	X	X	
<u>411.2.2.1 Flushometer Valve Flow Rate</u>	X	X	
<u>411.2.3 Water Closets</u>	X	X	
<u>412.1.2 Urinal Flow Rate (wall mount)</u>	X	X	
<u>412.1.3 Urinal Flow Rate (floor mount)</u>	X	X	
<u>417.1.1 Wash Fountain Flow Rate</u>	X	X	
<u>417.1.2 Metering Faucet Flow Rate</u>	X	X	
<u>420.2.1 Kitchen Faucet Flow Rate</u>	X	X	
Table A. Occupant Load Factor	X	X	
Table 422.1 Minimum Plumbing Facilities (Footnote-4 7)	X	X	
Table A. Occupant Load Factor	X	X	

**CHAPTER 4
PLUMBING FIXTURES AND FIXTURE FITTINGS**

...

407.0 Lavatories.

407.1 Application. Lavatories shall comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, ASME A112.19.12, CSA B45.5/IAPMO Z124, or CSA B45.11/IAPMO Z401.

407.2 Water Consumption. The maximum water flow rate of faucets shall comply with Section 407.2.1 and Section 407.2.2.

407.2.1 Maximum Flow Rate. The maximum flow rate for public lavatory faucets shall not exceed 0.5 gpm at 60 psi (1.9 L/m at 414 kPa) and 2.2 gpm at 60 psi (8.3 L/m at 414 kPa) for private lavatory faucets in accordance with ASME A112.18.1/CSA B125.1.

407.2.2 Metering Faucets. Metered faucets shall deliver a maximum of 0.25 gallons (1.0 L) per metering cycle in accordance with ASME A112.18.1/CSA B125.1.

407.2.2.1 [DSA-SS & DSA-SS/CC] Metering Faucets shall not deliver more than 0.20 gallons (0.76 L) per cycle in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).

...

408.0 Showers.

408.1 Application. Manufactured shower receptors and shower bases shall comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, or CSA B45.5/IAPMO Z124.

408.2 Water Consumption. Showerheads shall have a maximum flow rate of not more than 2.5 gpm at 80 psi (9.5 L/m at 552 kPa), in accordance with ASME A112.18.1/CSA B125.1.

408.2.1 Single Showerhead. [DSA-SS & DSA-SS/CC] Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).

408.2.2 Multiple Showerheads Serving One Shower. [DSA-SS & DSA-SS/CC] When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).

Note: A hand-held shower shall be considered a showerhead.

...

411.0 Water Closets.

411.1 Application. Water closets shall comply with ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, or CSA B45.5/IAPMO Z124. 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 less than 6 years of age, water closets shall be of a size and height suitable for children's use.

411.2 Water Consumption. Water closets shall have a maximum consumption not to exceed 1.6 gallons (6.0 Lpf) of water per flush in accordance with ASME A112.19.2/CSA B45.1.

411.2.1 Dual Flush Water Closets. Dual flush water closets shall comply with ASME A112.19.14. The effective flush volume for dual flush water closets shall be defined as the composite, average flush volume of two reduced flushes and one full flush.

411.2.2 Flushometer Valve Activated Water Closets. Flushometer valve activated water closets shall have a maximum flush volume of 1.6 gallons (6.0 Lpf) of water per flush in accordance with ASME A112.19.2/CSA B45.1

411.2.2.1 Flushometer Valve Activated Water Closets. [DSA-SS & DSA-SS/CC] Flushometer valve activated water closets shall have a maximum flush volume of 1.28 gallons (4.8 L) of water per flush in accordance with ASME A112.19.2/CSA B45.1.

411.2.3 Water Closets [DSA-SS & DSA-SS/CC] The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).

...

412.0 Urinals.

412.1 Application. Urinals shall comply with ASME A112.19.2/CSA B45.1, ASME A112.19.19, or CSA B45.5/IAPMO Z124. Urinals shall have an average water consumption not to exceed 1 gallon (3.8 Lpf) of water per flush.

412.1.1 Nonwater Urinals. ...

403-3.2 412.1.2 Wall Mounted Urinals. [DSA-SS & DSA-SS/CC] ...

403-3.3 412.1.3 Floor Mounted Urinals. [DSA-SS & DSA-SS/CC] ...

...

417.0 Faucets and Fixture Fittings.

417.1 Application. Faucets and fixture fittings shall comply with ASME A112.18.1/CSA B125.1. Fixture fittings covered under the scope of NSF 61 shall be in accordance with the requirements of NSF 61.

417.1.1 Wash Fountains. [DSA-SS & DSA-SS/CC] Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute/20 [rim space (inches) at 60 psi] in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).

417.1.2 Metering Faucets for Wash Fountains. [DSA-SS & DSA-SS/CC] Metering faucets for wash fountains shall not deliver more than 0.20 gallons per cycle/20 [rim space (inches) at 60 psi] in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).

...

420.0 Sinks.

420.1 Application. Sinks shall comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, ASME A112.19.3/CSA B45.4, or CSA B45.5/IAPMO Z124. Moveable sink systems shall comply with ASME A112.19.12.

420.2 Water Consumption. Sink faucets shall have a maximum flow rate of not more than 2.2 gpm at 60 psi (8.3 L/m at 414 kPa) in accordance with ASME A112.18.1/CSA B125.1.

Exceptions:

- (1) Clinical sinks
- (2) Laundry trays
- (3) Service sinks

420.2.1 Kitchen Faucets. [DSA-SS & DSA-SS/CC] *Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi in compliance with Chapter 5, Division 5.3 of the California Green Building Standards Code (CALGreen).*

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**Table 422.1
MINIMUM PLUMBING FACILITIES¹**

Each building shall be provided with sanitary facilities, including provisions for persons with disabilities as prescribed by the Department Having Jurisdiction.^{4,7} Table 422.1 applies to new buildings, additions to a building, and changes of occupancy or type in an existing building resulting in increased occupant load.

For requirements for persons with disabilities, Chapter 11A or 11B of the California Building Code shall be used.

The total occupant load shall be determined in accordance with the [DSA-SS & DSA-SS/CC] Occupant Load Factor Table A.

TYPE OF OCCUPANCY ²	WATER CLOSETS (FIXTURES PER PERSON) ³	URINALS (FIXTURES PER PERSON) ⁴	LAVATORIES (FIXTURES PER PERSON) ^{5,6}	BATHTUBS OR SHOWERS (FIXTURES PER PERSON)	DRINKING FOUNTAINS/FACILITIES (FIXTURES PER PERSON)	OTHER
A-1						
A-2						
A-3						
A-4						
A-5						
B						
E						
F1, F2						
I-1						
1-2						
1-3						
1-4						
M						
R-1						
R-2						
R-3						
R-3						
R-4						
S-1, S-2						

NOTES:

- 1 The figures shown are based upon one fixture being the minimum required for the number of persons indicated or any fraction thereof.
2. A restaurant is defined as a business that sells food to be consumed on the premises.
 - a. The number of occupants for a drive-in restaurant shall be considered as equal to the number of parking stalls.
 - b. Hand-washing facilities shall be available in the kitchen for employees.
3. The total number of required water closets for females shall be not less than the total number of required water closets and urinals for males.
4. For each urinal added in excess of the minimum required, one water closet shall be permitted to be deducted. The number of water closets shall not be reduced to less than two-thirds of the minimum requirements.
5. Group lavatories that are 24 lineal inches (610 mm) of wash sink or 18 inches (457 mm) of a circular basin, where provided with water outlets for such space, shall be considered equivalent to one lavatory.
6. Metering or self-closing faucets shall be installed on lavatories intended to serve the transient public.
47. [DSA/SS, DSA-SS/CC] In accordance with Sections 1.8.7 and 301.2, the Authority Having Jurisdiction may approve alternative designs criteria when determining the minimum number of plumbing fixtures.

**TABLE A.
OCCUPANT LOAD FACTOR:
[DSA-SS & DSA-SS/CC]**

OCCUPANCY	OCCUPANT LOAD FACTOR (square feet) (CBC 2001, Table A-29A)
<i>Group A</i>	
1. Auditoriums, convention halls, dance floors, lodge rooms, stadiums and casinos (where no fixed seating is provided) (use 1/2 "one-half" the number of fixed seating)	15
2. Conference rooms, dining rooms, drinking establishments, exhibit rooms, gymnasiums, lounges, stages and similar uses including restaurants classified as Group B occupancies	30
3. Worship places; principal assembly area, educational and activity unit (use 1/2 "one-half" the number of fixed seating) (where no fixed seating is provided)	30
<i>Group B</i>	
Office or public buildings (area accessible to the public)	200
<i>Group E</i>	
Schools for day care, elementary, secondary	50
<i>Educational Facilities Other than Group E</i>	
Colleges, universities, adult center, etc.	50
<i>Group F</i>	
Workshop, foundries and similar establishments	2,000
<i>Group H</i>	
Hazardous materials fabrication and storage	2,000
<i>Group I</i>	
Hospital general use area, health Care facilities	200
<i>Group M</i>	
Retail or wholesale stores	200

Group R Congregate residence, Group R-1	200
Group S Warehouse	5,000

* Any uses not specifically listed shall be based on similar uses listed in this table.

** For building or space with mixed occupancies, use appropriate occupancy group for each area (for example, a school may have an "A" occupancy for the gymnasium, a "B" occupancy for the office, an "E" occupancy for the classrooms, etc.)

Accessory areas may be excluded (for example: hallway, restroom, stair enclosure)

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**CALIFORNIA PLUMBING CODE
CHAPTER 5 - WATER HEATERS**

Repeal Chapter 5 (Water Heaters) of the 2012 edition UPC.

Adopt Chapter 5 (Water Heaters) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**CALIFORNIA PLUMBING CODE
CHAPTER 6 - WATER SUPPLY AND DISTRIBUTION**

Repeal Chapter 6 (Water Supply and Distribution) of the 2012 edition UPC.

Adopt Chapter 6 (Water Supply and Distribution) of the 2015 edition UPC with existing DSA amendments continued for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			
Adopt Entire Chapter as amended (amended sections listed below)	X	X	
Table 604.1 Materials for Building Supply and Water Distribution Piping and Fittings	X	X	

...

**TABLE 604.1
MATERIALS FOR BUILDING SUPPLY AND WATER DISTRIBUTION PIPING AND FITTINGS**

MATERIAL	BUILDING SUPPLY PIPE AND FITTINGS	WATER DISTRIBUTION PIPE AND FITTINGS	REFERENCED STANDARD(S) PIPE	REFERENCED STANDARD(S) FITTINGS
Copper and Copper Alloys	X	X	ASTM B42, ASTM B43, ASTM B75, ASTM B88, ASTM B135, ASTM B251, ASTM B302, ASTM B447	ASME B16.15, ASME B16.18, ASME B16.22, ASME B16.26, ASME B16.51
CPVC	X	X	ASTM D2846, ASTM	ASTM D2846, ASTM

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			F441, ASTM F442, CSA B137.6	F437, ASTM F438, ASTM F439, ASTM F1970, CSA B137.6
CPVC-AL- CPVC	X	X	ASTM F2855	ASTM D2846
Ductile-Iron	X	X	AWWA C151	ASME B16.4, AWWA C110, AWWA C153
Galvanized Steel	X	X	ASTM A53	— —
Malleable Iron	X	X	—	ASME B16.3
PE	X ¹	—	ASTM D2239, ASTM D2737, ASTM D3035, AWWA C901, CSA B137.1	ASTM D2609, ASTM D2683, ASTM D3261, ASTM F1055, CSA B137.1
PE-AL-PE	X	X	ASTM F1282, CSA B137.9	ASTM F1282, ASTM F1974, CSA B137.9
PE-RT	X	X	ASTM F2769	ASTM F1807, ASTM F2098, ASTM F2159; ASTM F2735, ASTM F2769
PEX ^{2,3}	X	X	ASTM F876, ASTM F877, CSA B137.5, AWWA C904 ¹	ASSE 1061, ASTM F877, ASTM F1807, ASTM F1960, ASTM F1961, ASTM F2080, ASTM F2159, ASTM F2735, CSA B137.5
PEX-AL-PEX ⁴	X	X	ASTM F1281, CSA B137.10, ASTM F2262	ASTM F1281, ASTM F1974, ASTM F2434, CSA B137.10
PP	X	X	ASTM F2389, CSA B137.11	ASTM F2389, CSA B137.11
PVC	X ¹	—	ASTM D1785, ASTM D2241, AWWA C900	ASTM D2464, ASTM D2466, ASTM D2467, ASTM F1970
Stainless Steel	X	X	ASTM A269, ASTM A312	—

1. For Building Supply or cold-water applications.
2. *When PEX tubing is placed in soil and is used in potable water systems intended to supply drinking water to fixtures or appliances, the tubing or piping shall be sleeved with a material approved for potable water use in soil or other material that is impermeable to solvents or petroleum products.*

3. *PEX tubing shall meet or exceed the requirements of ASTM F 876-08 or an equivalent or more stringent standard when used in continuously recirculating hot water systems and the PEX tubing is exposed to the hot water 100% of the time.*
4. **[For DSA/SS, DSA-SS/CC]** *The use of PEX-AL-PEX in potable water supply systems is not adopted.*

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**CALIFORNIA PLUMBING CODE
CHAPTER 7 - SANITARY DRAINAGE**

Repeal Chapter 7 (Sanitary Drainage) of the 2012 edition UPC.
Adopt Chapter 7 (Sanitary Drainage) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**CALIFORNIA PLUMBING CODE
CHAPTER 8 - INDIRECT WASTES**

Repeal Chapter 8 (Indirect Wastes) of the 2012 edition UPC.
Adopt Chapter 8 (Indirect Wastes) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**CALIFORNIA PLUMBING CODE
CHAPTER 9 - VENTS**

Repeal Chapter 9 (Vents) of the 2012 edition UPC.
Adopt Chapter 9 (Vents) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**CALIFORNIA PLUMBING CODE
CHAPTER 10 - TRAPS AND INTERCEPTORS**

Repeal Chapter 10 (Traps and Interceptors) of the 2012 edition UPC.
Adopt Chapter 10 (Traps and Interceptors) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**CALIFORNIA PLUMBING CODE
CHAPTER 11 - STORM DRAINAGE**

Repeal Chapter 11 (Storm Drainage) of the 2012 edition UPC.
Adopt Chapter 11 (Storm Drainage) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**CALIFORNIA PLUMBING CODE
CHAPTER 12 - FUEL GAS PIPING**

Repeal Chapter 12 (Fuel Gas Piping) of the 2012 edition UPC.

Adopt Chapter 12 (Fuel Gas Piping) of the 2015 edition UPC with existing DSA amendments continued with editorial revisions proposed as shown below for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	
Adopt Entire Chapter as amended (amended sections listed below)			
Adopt only those sections that are listed below			
Chapter/Section			
1210.18			Note: Sec. 1210.18 (Earthquake-Actuated Gas Shutoff Valves) is printed in Chapter 12 for simplicity and the reader's convenience. Amendment is not applicable to the DSA-SS or DSA-SS/CC occupancies (public schools, community colleges and state essential services buildings).

**CHAPTER 12
FUEL GAS PIPING**

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1210.18 Earthquake-Actuated Gas Shutoff Valves. *Earthquake-actuated gas shutoff valves designed to automatically shut off the gas at the location of the valve in the event of a seismic disturbance and, certified by the State Architect as conforming to California Code of Regulations, Title 24, Part 12 Referenced Standards Code (CRSC), Standard 12-1216-1, shall be provided for buildings when such installation is required by local ordinance. Earthquake-actuated gas shutoff valves which have not been certified by the State Architect shall be prohibited in buildings open to the public under mandatory installation by local ordinance. Installation of the valves shall be in accordance with local ordinance, and in the absence of such per the manufacturer's installation instructions.*

An earthquake-actuated gas shutoff valve is a valve for installation in a gas piping system and designed to automatically shut off the gas at the location of the valve in the event of a seismic disturbance.

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**CALIFORNIA PLUMBING CODE
CHAPTER 13 - HEALTH CARE FACILITIES AND MEDICAL GAS AND
VACUUM SYSTEMS**

DSA is not proposing the adoption of Chapter 13 (Health Care Facilities and Medical Gas and Vacuum Systems) of the 2015 edition UPC. DSA did not adopt Chapter 13 (Health Care Facilities and Medical Gas and Vacuum Systems) of the 2012 edition UPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

**CALIFORNIA PLUMBING CODE
CHAPTER 14 – FIRESTOP PROTECTION**

DSA is not proposing the adoption of Chapter 14 (Firestop Protection) of the 2015 edition UPC. DSA did not adopt Chapter 15 (Firestop Protection) of the 2012 edition UPC. The State Fire Marshal's Office is responsible for the adoption of fire and life safety standards contained in the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

**CALIFORNIA PLUMBING CODE
CHAPTER 15 – ALTERNATE WATER SOURCES FOR
NONPOTABLE APPLICATIONS**

DSA is not proposing the adoption of Chapter 15 (Alternate Water Sources for Nonpotable Applications) of the 2015 edition UPC. DSA did not adopt Chapter 16 (Alternate Water Sources for Nonpotable Applications) of the 2012 edition UPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

**CALIFORNIA PLUMBING CODE
CHAPTER 16 – NONPOTABLE RAINWATER
CATCHMENT SYSTEMS**

DSA is not proposing the adoption of Chapter 16 (Nonpotable Rainwater Catchment Systems) of the 2015 edition UPC. DSA did not adopt Chapter 17 (Nonpotable Rainwater Catchment Systems) of the 2012 edition UPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

**CALIFORNIA PLUMBING CODE
CHAPTER 17 – REFERENCED STANDARDS**

Adopt Chapter 17 (Referenced Standards) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**APPENDIX A – RECOMMENDED RULES FOR SIZING
THE WATER SUPPLY SYSTEM**

Repeal Appendix A (Recommended Rules for Sizing the Water Supply System) of the 2012 edition UPC. Adopt Appendix A (Recommended Rules for Sizing the Water Supply System) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**APPENDIX B – EXPLANATORY NOTES ON COMBINATION
WASTE AND VENT SYSTEMS**

Repeal Appendix B (Explanatory Notes on Combination Waste and Vent Systems) of the 2012 edition UPC.

Adopt Appendix B (Explanatory Notes on Combination Waste and Vent Systems) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

APPENDIX C – ALTERNATE PLUMBING SYSTEMS

DSA is not proposing the adoption of Appendix C (Alternate Plumbing Systems) of the 2015 edition UPC. DSA did not adopt Appendix C (Alternate Plumbing Systems) of the 2012 edition UPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

APPENDIX D – SIZING STORM WATER DRAINAGE SYSTEMS

Repeal Appendix D (Sizing Storm Water Drainage Systems) of the 2012 edition UPC.

Adopt Appendix D (Sizing Storm Water Drainage Systems) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

**APPENDIX E – MANUFACTURED/MOBILE HOME PARKS
AND RECREATIONAL VEHICLE PARKS**

DSA is not proposing the adoption of Appendix E (Manufactured/Mobile Home Parks and Recreational Vehicle Parks) of the 2015 edition UPC. DSA did not adopt Appendix E (Manufactured/Mobile Home Parks and Recreational Vehicle Parks) of the 2012 edition UPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

**APPENDIX F – FIREFIGHTER BREATHING AIR
REPLENISHMENT SYSTEMS**

DSA is not proposing the adoption of Appendix F (Firefighter Breathing Air Replenishment Systems) of the 2015 edition UPC. DSA did not adopt Appendix F (Firefighter Breathing Air Replenishment Systems) of the 2012 edition UPC. The State Fire Marshal's Office is responsible for the adoption of fire and life safety standards contained in the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

APPENDIX G – SIZING OF VENTING SYSTEMS

DSA is not proposing the adoption of Appendix G (Sizing of Venting Systems) of the 2015 edition UPC.
DSA did not adopt Appendix G (Sizing of Venting Systems) of the 2012 edition UPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

APPENDIX H – PRIVATE SEWAGE DISPOSAL SYSTEMS

Repeal Appendix H (Private Sewage Disposal Systems) of the 2012 edition UPC.
Adopt Appendix H (Private Sewage Disposal Systems) of the 2015 edition UPC without DSA amendment for publication in the 2016 triennial edition of the CPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter	X	X	

APPENDIX I – INSTALLATION STANDARDS

DSA is not proposing the adoption of Appendix I (Installation Standards) of the 2015 UPC. DSA did not adopt Appendix I (Installation Standards) of the 2012 edition UPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

**APPENDIX J – COMBINATION OF INDOOR AND OUTDOOR
COMBUSTION AND VENTILATION OPENING DESIGN**

DSA is not proposing the adoption of Appendix J (Combination of Indoor and Outdoor Combustion and Ventilation Opening Design) of the 2015 edition UPC. DSA did not adopt Appendix J (Combination of Indoor and Outdoor Combustion and Ventilation Opening Design) of the 2012 edition UPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

APPENDIX K – POTABLE RAINWATER CATCHMENT SYSTEMS

DSA is not proposing the adoption of Appendix K (Potable Rainwater Catchment Systems) of the 2015 edition UPC. DSA did not adopt Appendix K (Potable Rainwater Catchment Systems) of the 2012 edition UPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

APPENDIX L – SUSTAINABLE PRACTICES

DSA is not proposing the adoption of Appendix L (Sustainable Practices) of the 2015 edition UPC.
DSA did not adopt Appendix L (Sustainable Practices) of the 2012 edition UPC.

Adopting Agency	DSA-SS	DSA-SS/CC	Comments
Adopt Entire Chapter			

(All existing amendments that are not revised above shall continue without any change)

Notation for [DSA-SS]

Authority: Education Code § 17310 and 81142, and H&S Code §16022.

Reference: Education Code §§ 17280 through 17317, and 81130 through 81147, and Health and Safety Code §§16000 through 16023.

Notation for [DSA-SS/CC]

Authority: Education Code § 81053.

Reference: Education Code §§ 81052, 81053, and 81130 through 81147.

**FINAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
REGARDING THE ADOPTION BY REFERENCE OF THE
2015 EDITION OF THE UNIFORM PLUMBING CODE
WITH PROPOSED AMENDMENTS INTO THE 2016 CALIFORNIA PLUMBING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5

(HCD 06/15)**

The Department of Housing and Community Development (HCD) proposes to adopt the 2015 edition of the Uniform Plumbing Code (UPC) for codification and effectiveness into the 2016 edition of the California Plumbing Code (CPC) as presented on the following pages, including any necessary amendments. HCD further proposes to:

- Repeal the 2012 edition of the Uniform Plumbing Code;
 - Repeal the 2013 edition of the California Plumbing Code, which includes amendments to the model code that are no longer necessary;
 - Repeal or amend building standards that are not addressed by a model code;
 - Relocate or codify existing adopted and necessary amendments to the model code into the format of the model code proposed for adoption, the action of which has no regulatory effect; adopt new necessary amendments to the model code proposed for adoption; and/or
 - Adopt new building standards that are not addressed by the model code proposed for adoption.
-

LEGEND FOR EXPRESS TERMS:

1. **UPC language with new California amendments:** UPC language shown in normal Arial 9 point; California amendments to UPC text shown *underlined and in italics* with vertical bar in left margin.
 2. **Existing California amendments being modified:** All such existing language shown in *italics*, modified language is *underlined* or shown in ~~strikeout~~ with vertical bar in left margin.
 3. **Existing California amendments with no modification:** All such existing language shown in *italics*, modified model code language is shown in ~~strikeout~~.
 4. **Text not being modified:** All language not displayed in full is shown as “...” (i.e., ellipsis).
 5. **Repealed text:** All language shown in ~~strikeout~~.
 6. **Notation:** Authority and Reference citations are provided at the end of each action.
-

SUMMARY OF REGULATORY ACTION

HCD PROPOSES TO:

- Adopt standards from the 2015 Uniform Plumbing Code into the 2016 California Plumbing Code **without amendment**.
- Adopt standards from the 2015 Uniform Plumbing Code into the 2016 California Plumbing Code **with new amendments**.
- Bring forward existing California Amendments from the 2013 California Plumbing Code for adoption into the 2016 California Plumbing Code **with modifications**.
- Bring forward existing California Amendments from the 2013 California Plumbing Code for adoption into the 2016 California Plumbing Code **without modifications**, except for editorial corrections.
- Repeal 2013 California Amendments, which are **not** brought forward into the 2016 California Plumbing Code.

1. HCD proposes to bring forward existing California Amendments in Chapter 1, Division 1, from the 2013 California Plumbing Code for adoption into the 2016 California Plumbing Code with modifications as follows:

**CHAPTER 1
ADMINISTRATION
DIVISION I
CALIFORNIA ADMINISTRATION**

1.1.0 General.

1.1.1 Title. These regulations shall be known as the California Plumbing Code, may be cited as such and will be referred to herein as "this code." The California Plumbing Code is Part 5 of twelve parts of the official compilation and publication of the adoption, amendment, and repeal of plumbing regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the 2012 2015 Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials with necessary California amendments.

1.1.2 Purpose. The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation, and energy conservation; safety to life and property from fire and other hazards attributed to the built environment; and to provide safety to fire fighters and emergency responders during emergency operations.

1.1.3 Scope. The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout the State of California.

1.1.3.1 Non-State-Regulated Buildings, Structures, and Applications. Except as modified by local ordinance pursuant to Section 1.1.8, the following standards in the California Code of Regulations, Title 24, Parts 2, 2.5, 3, 4, 5, 6, 9, 10 and 11 shall apply to all occupancies and applications not regulated by a state agency.

1.1.3.2 State-Regulated Buildings, Structures, and Applications. The model code, state amendments to the model code, and/or state amendments where there are no relevant model code provisions shall apply to the following buildings, structures, and applications regulated by state agencies as specified in Section 1.2.0 through 1.14.0, except where modified by local ordinance pursuant to Section 1.1.8. When adopted by a state agency, the provisions of this code shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by the state legislature.

Note: See Preface to distinguish the model code provisions from the California provisions.

1. State-owned buildings, including buildings constructed by the Trustees of the California State University, and to the extent permitted by California laws, buildings designed and constructed by the Regents of the University of California, and regulated by the Building Standards Commission. See Section 1.2.0 for additional scope provisions.
2. Local detention facilities regulated by the Corrections Standards Authority. See Section 1.3.0 for additional scope provisions.
3. Barbering, cosmetology or electrolysis establishments, acupuncture offices, pharmacies, veterinary facilities, and structural pest control locations regulated by the Department of Consumer Affairs. See Section 1.4.0 for additional scope provisions.
4. Reserved for the California Energy Commission. See Section 1.5.0 for additional scope provisions.
5. Dairies and places of meat inspection regulated by the Department of Food and Agriculture. See Section 1.6.0 for additional scope provisions.
6. Organized camps, laboratory animal quarters, public swimming pools, radiation protection, commissaries serving mobile food preparation vehicles, and wild animal quarantine facilities regulated by the Department of Public Health. See Section 1.7.0 for additional scope provisions.
7. Hotels, motels, lodging houses, ~~apartment houses~~ apartments, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing, and other

types of dwellings containing sleeping accommodations with or without common toilets or cooking facilities. See Section 1.8.2.1.1 for additional scope provisions.

8. Accommodations for persons with disabilities in buildings containing newly constructed covered multifamily dwellings, new common use spaces areas serving existing covered multifamily dwellings, additions to existing buildings where the addition alone meets the definition of "~~COVERED MULTIFAMILY DWELLINGS~~," covered multifamily dwellings, and new common-use spaces areas serving new covered multifamily dwellings which are regulated by the Department of Housing and Community Development. See Section 1.8.2.1.2 for additional scope provisions.
9. Permanent buildings and permanent accessory buildings or structures constructed within mobilehome parks and special occupancy parks regulated by the Department of Housing and Community Development. See Section 1.8.2.1.3 for additional scope provisions.
10. Accommodations for persons with disabilities regulated by the Division of the State Architect. See Section 1.9.1 for additional scope provisions.
11. Public elementary and secondary schools, community college buildings and state-owned or state-leased essential service buildings regulated by the Division of the State Architect. See Section 1.9.2 for additional scope provisions.
12. Reserved for the State Historical Building Safety Board with the Division of the State Architect. See Section 1.9.3 for additional scope provisions.
13. General acute care hospitals, acute psychiatric hospitals, skilled nursing and/or intermediate care facilities, clinics licensed by the Department of Public Health and correctional treatment centers regulated by the Office of Statewide Health Planning and Development. See Section 1.10 for additional scope provisions.
14. Applications regulated by the Office of State Fire Marshal include but are not limited to the following in accordance with Section 1.11.0:
 1. Buildings or structures used or intended for use as an:
 - 1.1. Asylum, jail, prison.
 - 1.2. Mental hospital, hospital, home for the elderly, children's nursery, children's home or institution, school or any similar occupancy of any capacity.
 - 1.3. Theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education.
 - 1.4. Small family day care homes, large family day-care homes, residential facilities and residential facilities for the elderly, residential care facilities.
 - 1.5. State institutions or other state-owned or state-occupied buildings.
 - 1.6. High rise structures.
 - 1.7. Motion picture production studios.
 - 1.8. Organized camps.
 - 1.9. Residential structures.
 2. Tents, awnings or other fabric enclosures used in connection with any occupancy.
 3. Fire alarm devices, equipment and systems in connection with any occupancy.
 4. Hazardous materials, flammable and combustible liquids.
 5. Public school automatic fire detection, alarm and sprinkler systems.
 6. Wildland-urban interface fire areas.
15. Public libraries constructed and renovated using funds from the California Library Construction and Renovation Bond Act of 1988 and regulated by the State Librarian. See Section 1.12.0 for additional scope provisions.
16. Graywater systems regulated by the Department of Water Resources. See Section 1.13.0 for additional scope provisions.
17. For applications listed in Section 1.9.1 regulated by the Division of the State Architect – Access Compliance, outdoor environments and uses shall be classified according to accessibility uses described in Chapter 11A, 11B and 11C.
18. Marine Oil Terminals regulated the State Lands Commission. See Section 1.14.0 for additional scope provisions.

1.1.4 Appendices. Provisions contained in the appendices of this code shall not apply unless specifically adopted by a state agency or adopted by a local enforcing agency in compliance with Health and Safety Code Section 18901 et seq. for Building Standards Law, Health and Safety Code Section 17950 for State Housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts. See Section 1.1.8 of this code.

1.1.5 Referenced Codes. The codes, standards and publications adopted and set forth in this code, including other codes, standards and publications referred to therein are, by title and date of publication, hereby adopted as standard

reference documents of this code. When this code does not specifically cover any subject related to building design and construction, recognized architectural or engineering practices shall be employed. The National Fire Codes, standards and the Fire Protection Handbook of the National Fire Protection Association are permitted to be used as authoritative guides in determining recognized fire prevention engineering practices.

1.1.6 Non-Building Standards, Orders and Regulations. Requirements contained in the Uniform Plumbing Code, or in any other referenced standard, code or document, which are not building standards as defined in Health and Safety Code Section 18909 shall not be construed as part of the provisions of this code. For non-building standards, orders, and regulations, see other titles of the California Code of Regulations.

1.1.7 Order of Precedence and Use.

1.1.7.1 Differences. In the event of any differences between these building standards and the standard reference documents, the text of these building standards shall govern.

1.1.7.2 Specific Provisions. Where a specific provision varies from a general provision, the specific provision shall apply.

1.1.7.3 Conflicts. When the requirements of this code conflict with the requirements of any other part of the California Building Standards Code, Title 24, the most restrictive requirements shall prevail.

1.1.8 City, County, or City and County Amendments, Additions or Deletions.

The provisions of this code do not limit the authority of city, county, or city and county governments to establish more restrictive and reasonably necessary differences to the provisions contained in this code pursuant to complying with Section 1.1.8.1. The effective date of amendments, additions, or deletions to this code by city, county, or city and county filed pursuant to Section 1.1.8.1 shall be the date filed. However, in no case shall the amendments, additions or deletions to this code be effective any sooner than the effective date of this code.

Local modifications shall comply with Health and Safety Code Section 18941.5 for Building Standards Law, Health and Safety Code Section 17958 for State Housing Law or Health and Safety Code Section 13869.7 for Fire Protection Districts.

1.1.8.1 Findings and Filings.

1. The city, county, or city and county shall make express findings for each amendment, addition or deletion based upon climatic, topographical, or geological conditions.

Exception: Hazardous building ordinances and programs mitigating unreinforced masonry buildings.

2. The city, county, or city and county shall file the amendments, additions, or deletions expressly marked and identified as to the applicable findings. Cities, counties, cities and counties, and fire departments shall file the amendments, additions or deletions, and the findings with the California Building Standards Commission at 2525 Natomas Park Drive, Suite 130, Sacramento, CA 95833.
3. Findings prepared by fire protection districts shall be ratified by the local city, county, or city and county and filed with the California Department of Housing and Community Development, Division of Codes and Standards, P.O. Box 1407, Sacramento, CA 95812-1407 or ~~1800-3rd Street, Room 260, Sacramento, CA 95844~~ 2020 W. El Camino Avenue, Suite 250, Sacramento, CA 95833-1829.

1.1.9 Effective Date of this Code. Only those standards approved by the California Building Standards Commission that are effective at the time an application for building permit is submitted shall apply to the plans and specifications for, and to the construction performed under, that permit. For the effective dates of the provisions contained in this code, see the History Note page of this code.

1.1.10 Availability of Codes. At least one complete copy each of Titles 8, 19, 20, 24, and 25 with all revisions shall be maintained in the office of the building official responsible for the administration and enforcement of this code. Each state department concerned and each city, county, or city and county shall have an up-to-date copy of the code available for public inspection. See Health and Safety Code Section 18942 ~~(d)(e)~~ (1) and (2).

1.1.11 Format. This part fundamentally adopts the Uniform Plumbing Code by reference on a chapter-by-chapter basis. When a specific chapter of the Uniform Plumbing Code is not printed in the code and is marked "Reserved", such chapter of the Uniform Plumbing Code is not adopted as a portion of this code. When a specific chapter of the

Uniform Plumbing Code is marked "Not Adopted by the State of California" but appears in the code, it may be available for adoption by local ordinance.

Note: Matrix Adoption Tables at the front of each chapter may aid the code user in determining which chapter or sections within a chapter are applicable to buildings under the authority of a specific state agency, but they are not considered regulatory.

1.1.12 Validity. If any chapter, section, subsection, sentence, clause or phrase of this code is for any reason held to be unconstitutional, contrary to statute, exceeding the authority of the state as stipulated by statutes or otherwise inoperative, such decision shall not affect the validity of the remaining portion of this code.

1.8.0 Department of Housing and Community Development. (HCD)

1.8.1 Purpose. The purpose of this code is to establish minimum requirements necessary to protect the health, safety, and general welfare of the occupants and the public by governing the erection, construction, reconstruction, enlargement, conversion, alteration, repair, moving, removal, demolition, sanitation, ventilation and maintenance or use of plumbing equipment or systems.

1.8.2 Authority and Abbreviations.

1.8.2.1 General. The Department of Housing and Community Development is authorized by law to promulgate and adopt building standards and regulations for several types of building applications. The applications under the authority of the Department of Housing and Community Development are listed in Sections 1.8.2.1.1 through 1.8.2.1.3.

1.8.2.1.1 Housing Construction.

Application - Hotels, motels, lodging houses, ~~apartment houses~~ apartments, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory built housing, and other types of dwellings containing sleeping accommodations with or without common toilet or cooking facilities including accessory buildings, facilities, and uses thereto. Sections of this code which pertain to applications listed in this section are identified using the abbreviation "HCD 1".

Enforcing Agency - Local building department or the Department of Housing and Community Development.

Authority Cited- Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference- Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

1.8.2.1.2 Housing Accessibility.

Application - ~~"COVERED MULTIFAMILY DWELLINGS"~~ Covered multifamily dwellings, as defined in Chapter 44A 2 of the California Code of Regulations, Title 24, Part 2, also known as the California Building Code (CBC) including, but not limited to lodging houses, dormitories, timeshares, condominiums, shelters for homeless persons, congregate residences, ~~apartment houses~~ apartments, dwellings, employee housing, factory-built housing, and other types of dwellings containing sleeping accommodations with or without common toilet or cooking facilities.

Sections of this code identified by the abbreviation "HCD 1-AC" require specific accommodations for ~~"PERSONS WITH DISABILITIES"~~ persons with disabilities, as defined in Chapter 44A 2 of the CBC California Building Code. The application of such provisions shall be in conjunction with other requirements of this code and apply only to newly constructed ~~"COVERED MULTIFAMILY DWELLINGS"~~ covered multifamily dwellings, as defined in Chapter 44A 2 of the CBC California Building Code. "HCD 1-AC" applications include, but are not limited to, the following:

1. All newly-constructed ~~"COVERED MULTIFAMILY DWELLINGS"~~ covered multifamily dwellings, as defined in Chapter 44A 2 of the CBC California Building Code.
2. New ~~"COMMON USE AREAS"~~ common use areas, as defined in Chapter 44A 2 of the CBC California Building Code serving existing covered multifamily dwellings.

3. Additions to existing buildings, where the addition alone meets the definition of "COVERED MULTIFAMILY DWELLINGS" covered multifamily dwellings, as defined in Chapter 11A 2 of the California Building Code.
4. Common use areas serving covered multifamily dwellings.
5. Where any portion of a building's exterior is preserved, but the interior of the building is removed, including all structural portions of floors and ceilings, the building is considered a new building for determining the application of California Building Code, Chapter 11A.

HCD 1-AC building standards generally do not apply to public use areas or public accommodations such as hotels, and motels, and public housing. Public use areas, public accommodations, and housing, ~~which is publicly funded~~ as defined in Chapter 2 of the California Building Code are subject to the Division of the State Architect (DSA-AC) in Chapter 11B, and are referenced in Section 1.9.1.

Newly constructed covered multifamily dwellings, which can also be defined as public housing, shall be subject to the requirements of Chapter 11A and Chapter 11B.

Enforcing Agency—Local building department or the Department of Housing and Community Development.

Authority Cited- Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

1.8.2.1.3 Permanent Buildings in Mobilehome Parks and Special Occupancy Parks.

Application - Permanent buildings, and permanent accessory buildings or structures, constructed within mobilehome parks and special occupancy parks that are under the control and ownership of the park operator. Sections of this code which pertain to applications listed in this section are identified using the abbreviation "HCD 2".

Enforcing Agency- Local building department or other local agency responsible for the enforcement of Health and Safety Code, Division 13, Part 2.1, commencing with Section 18200 for mobilehome parks and Health and Safety Code, Division 13, Part 2.3, commencing with Section 18860 for special occupancy parks; or the Department of Housing and Community Development.

Authority Cited - Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11 and 19990; and Government Code Section 12955.1.

Reference - Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

1.8.3 Local Enforcing Agency.

1.8.3.1 Duties and Powers. The building department of every city, county, or city and county shall enforce all the provisions of law, this code, and the other rules and regulations promulgated by the Department of Housing and Community Development pertaining to the installation, erection, construction, reconstruction, movement, enlargement, conversion, alteration, repair, removal, demolition, or arrangement of apartment houses apartments, condominiums, hotels, motels, lodging houses and dwellings, including accessory buildings, facilities, and uses thereto.

The provisions regulating the erection and construction of dwellings and appurtenant structures shall not apply to existing structures as to which construction is commenced or approved prior to the effective date of these regulations. Requirements relating to use, maintenance and occupancy shall apply to all dwellings and appurtenant structures approved for construction or constructed before or after the effective date of this code.

For additional information regarding the use and occupancy of existing buildings and appurtenant structures, see California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, commencing with Section 1.

1.8.3.2 Laws, Rules, and Regulations. Other than the building standards contained in this code, and notwithstanding other provisions of law, the statutory authority and location of the laws, rules, and regulations to be enforced by local enforcing agencies are listed by statute in Sections 1.8.3.2.1 through 1.8.3.2.5 below:

1.8.3.2.1 State Housing Law. Refer to the State Housing Law, California Health and Safety Code, Division 13, Part 1.5, commencing with Section 17910 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, commencing with Section 1, for the erection, construction, reconstruction, movement, enlargement, conversion, alteration, repair, removal, demolition, or arrangement of ~~apartment houses~~ apartments, condominiums, hotels, motels, lodging houses and dwellings, including accessory buildings, facilities, and uses thereto.

1.8.3.2.2 Mobilehome Parks Act. Refer to the Mobilehome Parks Act, California Health and Safety Code, Division 13, Part 2.1, commencing with Section 18200 and California Code of Regulations, Title 25, Division 1, Chapter 2, commencing with Section 1000 for mobilehome park administrative and enforcement authority, permits, plans, fees, violations, inspections, and penalties both within and outside mobilehome parks.

Exception: Mobilehome parks where the Department of Housing and Community Development is the enforcing agency.

1.8.3.2.3 Special Occupancy Parks Act. Refer to the Special Occupancy Parks Act, California Health and Safety Code, Division 13, Part 2.3, commencing with Section 18860 and California Code of Regulations, Title 25, Division 1, Chapter 2.2, commencing with Section 2000 for special occupancy park administrative and enforcement authority, permits, fees, violations, inspections, and penalties both within and outside of special occupancy parks.

Exception: Special occupancy parks where the Department of Housing and Community Development is the enforcing agency.

1.8.3.2.4 Employee Housing Act. Refer to the Employee Housing Act, California Health and Safety Code, Division 13, Part 1, commencing with Section 17000 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 3, commencing with Section 600 for employee housing administrative and enforcement authority, permits, fees, violations, inspections, and penalties.

1.8.3.2.5 Factory-Built Housing Law. Refer to the Factory-Built Housing Law, California Health and Safety Code, Division 13, Part 6 commencing with Section 19960 and California Code of Regulations, Title 25, Division 1, Chapter 3, Subchapter 1, commencing with Section 3000 for factory-built housing administrative and enforcement authority, permits, fees, violations, inspections, and penalties.

1.8.4 Permits, Fees, Applications, and Inspections.

1.8.4.1 Permits. A written construction permit shall be obtained from the enforcing agency prior to the erection, construction, reconstruction, installation, relocation, or alteration of any plumbing system.

Exceptions:

1. Work exempt from permits as specified in Chapter 1, Administration, Division II, Section ~~403.1.1~~ 104.2 items (1)-(2) of this code.
2. Changes, alterations, or repairs of a minor nature not affecting structural features, egress, sanitation, safety, or accessibility as determined by the enforcing agency.

Exemptions from permit requirements shall not be deemed to grant authorization for any work to be done in any manner in violation of other provisions of law or this code.

1.8.4.2 Fees. Subject to other provisions of law, the governing body of any city, county, or city and county may prescribe fees to defray the cost of enforcement of rules and regulations promulgated by the Department of Housing and Community Development. The amount of the fees shall not exceed the amount reasonably necessary to administer or process permits, certificates, forms, or other documents, or to defray the costs of enforcement. For additional information, see State Housing Law, Health and Safety Code, Division 13, Part 1.5, Section 17951 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, Article 3, commencing with Section 6.

1.8.4.3 Plan Review and Time Limitations. Subject to other provisions of law, provisions related to plan checking, prohibition of excessive delays, and contracting with or employment of private parties to perform plan

checking are set forth in the State Housing Law, Health and Safety Code Section 17960.1, and for employee housing, in Health and Safety Code Section 17021.

1.8.4.3.1 Retention of Plans. The building department of every city, county, or city and county shall maintain an official copy, microfilm, or electronic or other type of photographic copy of the plans of every building, during the life of the building, for which the department issued a building permit.

Exceptions:

1. Single or multiple dwellings not more than two stories and basement in height.
2. Garages and other structures appurtenant to buildings listed in Exception 1.
3. Farm or ranch buildings appurtenant to buildings listed in Exception 1.
4. Any one-story building where the span between bearing walls does not exceed 25 feet (7620 mm), except a steel frame or concrete building.

All plans for common interest developments as defined in Section ~~4354~~ 4100 of the California Civil Code shall be retained. For additional information regarding plan retention and reproduction of plans by an enforcing agency, see Health and Safety Code Sections 19850 through 19852.

1.8.4.4 Inspections. Construction or work for which a permit is required shall be subject to inspection by the building official and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or other regulations of the Department of Housing and Community Development.

1.8.5 Right of Entry for Enforcement.

1.8.5.1 General. Subject to other provisions of law, officers and agents of the enforcing agency may enter and inspect public and private properties to secure compliance with the rules and regulations promulgated by the Department of Housing and Community Development. For limitations and additional information regarding enforcement, see the following:

1. For applications subject to State Housing Law as referenced in Section 1.8.3.2.1 of this code, refer to Health and Safety Code, Division 13, Part 1.5, commencing with Section 17910 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, commencing with Section 1.
2. For applications subject to the Mobilehome Parks Act as referenced in Section 1.8.3.2.2 of this code, refer to Health and Safety Code, Division 13, Part 2.1, commencing with Section 18200 and California Code of Regulations, Title 25, Division 1, Chapter 2, commencing with Section 1000.
3. For applications subject to the Special Occupancy Parks Act as referenced in Section 1.8.3.2.3 of this code, refer to Health and Safety Code Division 13, Part 2.3, commencing with Section 18860 and California Code of Regulations, Title 25, Division 1, Chapter 2.2, commencing with Section 2000.
4. For applications subject to the Employee Housing Act as referenced in Section 1.8.3.2.4 of this code, refer to Health and Safety Code, Division 13, Part 1, commencing with Section 17000 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 3, commencing with Section 600.
5. For applications subject to the Factory-Built Housing Law as referenced in Section 1.8.3.2.5 of this code, refer to Health and Safety Code, Division 13, Part 6, commencing with Section 19960 and California Code of Regulations, Title 25, Division 1, Chapter 3, Subchapter 1, commencing with Section 3000.

1.8.6 Local Modification by Ordinance or Regulation.

1.8.6.1 General. Subject to other provisions of law, a city, county, or city and county may make changes to the provisions adopted by the Department of Housing and Community Development. If any city, county, or city and county does not amend, add, or repeal by local ordinances or regulations the provisions published in this code or other regulations promulgated by the Department of Housing and Community Development, those provisions shall be applicable and shall become effective 180 days after publication by the California Building Standards Commission. Amendments, additions, and deletions to this code adopted by a city, county, or city and county pursuant to California Health and Safety Code Sections 17958.5, 17958.7 and 18941.5, together with all applicable portions of this code, shall also become effective 180 days after publication of the California Building Standards Code by the California Building Standards Commission.

1.8.6.2 Findings, Filings, and Rejections of Local Modifications. Prior to making any modifications or establishing more restrictive building standards, the governing body shall make express findings and filings, as required by California Health and Safety Code Section 17958.7, showing that such modifications are reasonably necessary due to local climatic, geological, or topographical conditions. No modification shall become effective or operative unless the following requirements are met:

1. The express findings shall be made available as a public record.
2. A copy of the modification and express finding, each document marked to cross-reference the other, shall be filed with the California Building Standards Commission for a city, county, or a city and county, and with the Department of Housing and Community Development for fire protection districts.
3. The California Building Standards Commission has not rejected the modification or change.

Nothing in this section shall limit the authority of fire protection districts pursuant to California Health and Safety Code Section 13869.7(a).

1.8.7 Alternate Materials, Designs, Tests, and Methods of Construction.

1.8.7.1 General. The provisions of this code as adopted by the Department of Housing and Community Development are not intended to prevent the use of any alternate material, appliance, installation, device, arrangement, design, or method of construction not specifically prescribed by this code. Consideration and approval of alternates shall comply with Section 1.8.7.2 for local building departments and Section 1.8.7.3 for the Department of Housing and Community Development.

1.8.7.2 Local Building Departments. The building department of any city, county, or city and county may approve alternates for use in the erection, construction, reconstruction, movement, enlargement, conversion, alteration, repair, removal, demolition, or arrangement of ~~an apartment house~~ apartments, condominiums, hotel hotels, motel motels, lodging house houses, or dwelling dwellings or an accessory ~~structure~~ structures, except for the following:

1. Structures located in mobilehome parks as defined in California Health and Safety Code Section 18214.
2. Structures located in special occupancy parks as defined in California Health and Safety Code Section 18862.43.
3. Factory-built housing as defined in California Health and Safety Code Section 19971.

1.8.7.2.1 Approval of Alternates. The consideration and approval of alternates by a local building department shall comply with the following procedures and limitations:

1. The approval shall be granted on a case-by-case basis.
2. Evidence shall be submitted to substantiate claims that the proposed alternate, in performance, safety, and protection of life and health, conforms to, or is at least equivalent to, the standards contained in this code and other rules and regulations promulgated by the Department of Housing and Community Development.
3. The local building department may require tests performed by an approved testing agency at the expense of the owner or owner's agent as proof of compliance.
4. If the proposed alternate is related to accessibility in covered multifamily dwellings or facilities serving ~~"COVERED MULTIFAMILY DWELLINGS"~~ covered multifamily dwellings, as defined in Chapter 44A 2 of the ~~CBC California Building Code~~, the proposed alternate must also meet the threshold set for ~~"EQUIVALENT FACILITATION"~~ equivalent facilitation as defined in Chapter 44A 2 of the ~~CBC California Building Code~~.

For additional information regarding approval of alternates by a local building department pursuant to the State Housing Law, see California Health and Safety Code Section 17951(e) and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1.

1.8.7.3 Department of Housing and Community Development. The Department of Housing and Community Development may approve alternates for use in the erection, construction, reconstruction, movement, enlargement, conversion, alteration, repair, removal or demolition of ~~an apartment house~~ apartments, condominiums, hotel hotels, motel motels, lodging house houses, dwelling dwellings, or an accessory structures thereto. The consideration and approval of alternates shall comply with the following:

1. The department may require tests at the expense of the owner or owner's agent to substantiate compliance with the California Building Standards Code.
2. The approved alternate shall, for its intended purpose, be at least equivalent in performance and safety to the materials, designs, tests, or methods of construction prescribed by this code.

1.8.8 Appeals Board.

1.8.8.1 General. Every city, county, or city and county shall establish a process to hear and decide appeals of orders, decisions, and determinations made by the enforcing agency relative to the application and interpretation of this code and other regulations governing construction, use, maintenance and change of occupancy. The governing body of any city, county, or city and county may establish a local appeals board and a housing

appeals board to serve this purpose. Members of the appeals board(s) shall not be employees of the enforcing agency and shall be knowledgeable in the applicable building codes, regulations and ordinances as determined by the governing body of the city, county, or city and county.

Where no such appeals boards or agencies have been established, the governing body of the city, county, or city and county shall serve as the local appeals board or housing appeals board as specified in California Health and Safety Code Sections 17920.5 and 17920.6.

1.8.8.2 Definitions. The following terms shall for the purposes of this section have the meaning shown.

Housing Appeals Board. The board or agency of a city, county, or city and county which is authorized by the governing body of the city, county, or city and county to hear appeals regarding the requirements of the city, county, or city and county relating to the use, maintenance, and change of occupancy of buildings and structures, including requirements governing alteration, additions, repair, demolition, and moving. In any area in which there is no such board or agency, "housing appeals board" means the local appeals board having jurisdiction over the area.

Local Appeals Board. The board or agency of a city, county, or city and county which is authorized by the governing body of the city, county, or city and county to hear appeals regarding the building requirements of the city, county, or city and county. In any area in which there is no such board or agency, "local appeals board" means the governing body of the city, county, or city and county having jurisdiction over the area.

1.8.8.3 Appeals. Except as otherwise provided by law, any person, firm, or corporation adversely affected by a decision, order, or determination by a city, county, or city and county relating to the application of building standards published in the California Building Standards Code, or any other applicable rule or regulation adopted by the Department of Housing and Community Development, or any lawfully enacted ordinance by a city, county, or city and county, may appeal the issue for resolution to the local appeals board or housing appeals board as appropriate.

The local appeals board shall hear appeals relating to new building construction and the housing appeals board shall hear appeals relating to existing buildings.

1.8.9 Unsafe Buildings or Structures.

1.8.9.1 Authority to Enforce. Subject to other provisions of law, the administration, enforcement, actions, proceedings, abatement, violations, and penalties for unsafe buildings and structures are contained in the following statutes and regulations:

1. For applications subject to State Housing Law as referenced in Section 1.8.3.2.1 of this code, refer to Health and Safety Code, Division 13, Part 1.5, commencing with Section 17910 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, commencing with Section 1.
2. For applications subject to the Mobilehome Parks Act as referenced in Section 1.8.3.2.2 of this code, refer to Health and Safety Code, Division 13, Part 2.1, commencing with Section 18200 and California Code of Regulations, Title 25, Division 1, Chapter 2, commencing with Section 1000.
3. For applications subject to the Special Occupancy Parks Act as referenced in Section 1.8.3.2.3 of this code, refer to Health and Safety Code, Division 13, Part 2.3, commencing with Section 18860 and California Code of Regulations, Title 25, Division 1, Chapter 2.2, commencing with Section 2000.
4. For applications subject to the Employee Housing Act as referenced in Section 1.8.3.2.4 of this code, refer to Health and Safety Code, Division 13, Part 1, commencing with Section 17000 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 3, commencing with Section 600.
5. For applications subject to the Factory-Built Housing Law as referenced in Section 1.8.3.2.5 of this code, refer to Health and Safety Code, Division 13, Part 6, commencing with Section 19960 and California Code of Regulations, Title 25, Division 1, Chapter 3, Subchapter 1, commencing with Section 3000.

1.8.9.2 Actions and Proceedings. Subject to other provisions of law, punishments, penalties, and fines for violations of building standards are contained in the following statutes and regulations:

1. For applications subject to the State Housing Law as referenced in Section 1.8.3.2.1 of this code, refer to Health and Safety Code, Division 13, Part 1.5, commencing with Section 17910 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 1, commencing with Section 1.
2. For applications subject to the Mobilehome Parks Act as referenced in Section 1.8.3.2.2 of this code, refer to Health and Safety Code, Division 13, Part 2.1, commencing with Section 18200 and California Code of Regulations, Title 25, Division 1, Chapter 2, commencing with Section 1000.

3. For applications subject to the Special Occupancy Parks Act as referenced in Section 1.8.3.2.3. of this code, refer to Health and Safety Code, Division 13, Part 2.3, commencing with Section 18860 and California Code of Regulations, Title 25, Division 1, Chapter 2.2, commencing with Section 2000.
4. For applications subject to the Employee Housing Act as referenced in Section 1.8.3.2.4 of this code, refer to Health and Safety Code, Division 13, Part 1, commencing with Section 17000 and California Code of Regulations, Title 25, Division 1, Chapter 1, Subchapter 3, commencing with Section 600.
5. For applications subject to the Factory-Built Housing Law as referenced in Section 1.8.3.2.5 of this code, refer to Health and Safety Code, Division 13, Part 6, commencing with Section 19960 and California Code of Regulations, Title 25, Division 1, Chapter 3, Subchapter 1, commencing with Section 3000.

1.8.10 Other Building Regulations.

1.8.10.1 Existing Structures. *Notwithstanding other provisions of law, the replacement, retention, and extension of original materials and the use of original methods of construction for any existing building or accessory structure, or portions thereof, shall be permitted in accordance with the provisions of this code and the California Existing Building Code, as adopted by the Department of Housing and Community Development. For additional information, see California Health and Safety Code Sections 17912, 17920.3, 17922 and 17958.8.*

~~**1.8.10.2 Moved Structures.** *Subject to the requirements of California Health and Safety Code Sections 17922.3 and 17958.9, local ordinances or regulations relating to a moved residential or accessory structure shall, after July 1, 1978, permit the retention of existing materials and methods of construction so long as the structure does not become or continue to be a substandard building.*~~

1.8.10.2 Moved Structures. *Subject to the requirements of California Health and Safety Code Sections 17922, 17922.3 and 17958.9, local ordinances or regulations relating to a moved residential building or accessory structure thereto, shall permit the replacement, retention, and extension of original materials and the use of original methods of construction so long as the structure does not become or continue to be a substandard building.*

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

2. HCD proposes to adopt Chapter 1, Division II, Section 104.2 (Items 1 and 2 only), from the 2015 Uniform Plumbing Code into the 2016 California Plumbing Code without amendment:

**DIVISION II
ADMINISTRATION**

104.2 (Formerly 103.1.1) Exempt Work. ... (No change to text)

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

3. HCD proposes to adopt Chapter 2 from the 2015 Uniform Plumbing Code with new amendments and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code as follows:

**CHAPTER 2
DEFINITIONS**

203.0

-A-

Alternate Water Source. Nonpotable source of water that includes but *is* not limited to gray water, on-site treated non-potable gray water, rainwater, and reclaimed (recycled) water.

Approved. Acceptable to the Authority Having Jurisdiction.

Exception: (HCD 1 & HCD 2) "Approved" means meeting the approval of the Enforcing Agency, except as otherwise provided by law, when used in connection with any system, material, type of construction, fixture or appliance as the result of investigations and tests conducted by the agency, or by reason of accepted principles or tests by national authorities, or technical, health, or scientific organizations or agencies.

Notes:

- (1) See Health and Safety Code Section 17920 for "Approved" as applied to residential construction and buildings or structures accessory thereto, as referenced in Sections 1.8.2.
- (2) See Health and Safety Code Section 17921.1 for "Approved" as applied to the use of hotplates in residential construction referenced in Sections 1.8.2.
- (3) See Health and Safety Code Section 19966 for "Approved" as applied to Factory-Built Housing as referenced in Sections 1.8.3.2.5.
- (4) See Health and Safety Code Section 18201 for "Approved" as applied to Mobilehome Parks as referenced in Section 1.8.2.
- (5) See Health and Safety Code Section 18862.1 for "Approved" as applied to Special Occupancy Parks as referenced in Section 1.8.2.

Approved Testing Agency. An organization primarily established for purposes of testing to approved standards and approved by the Authority Having Jurisdiction.

(HCD 1 & HCD 2) "Approved Testing Agency" is any agency which is determined by the enforcing agency, except as otherwise provided by statute, to have adequate personnel and expertise to carry out the testing of systems, materials, and construction fixtures or appliances.

Authority Having Jurisdiction. The organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, installations, or procedures. The Authority Having Jurisdiction shall be a federal, state, local, or other regional department or an individual such as a plumbing official, mechanical official, labor department official, health department official, building official, or others having statutory authority. In the absence of a statutory authority, the Authority Having Jurisdiction may be some other responsible party. This definition shall include the Authority Having Jurisdiction's duly authorized representative.

(HCD 1 & HCD 2) "Authority Having Jurisdiction" shall mean "Enforcing Agency" as defined in Section 207.0 of this code.

204.0

-B-

Building. A structure built, erected, and framed of component structural parts designed for the housing, shelter, enclosure, or support of persons, animals, or property of any kind.

Exceptions: (HCD 1 & HCD 2) "BUILDING" shall not include the following:

1. Any mobilehome as defined in Health and Safety Code Section 18008.

2. Any manufactured home as defined in Health and Safety Code Section 18007.
3. Any commercial modular as defined in Health and Safety Code Section 18001.8 or any special purpose commercial modular as defined in Section 18012.5.
4. Any recreational vehicle as defined in Section Health and Safety Code 18010.
5. Any multifamily manufactured home as defined in Health and Safety Code Section 18008.7.

For additional information, see Health and Safety Code Section 18908.

205.0 **-C-**

Clothes Washer System (HCD 1). A gray water system utilizing only a single domestic clothes washing machine in a one- or two family dwelling.

Complex System (HCD 1). Gray water systems that discharge over 250 gallons (947 L) per day.

Covered Multifamily Dwellings (HCD 1-AC). See Section 1.8.2.1.2.

206.0 **-D-**

Department (HCD 1, HCD 2 & HCD 1-AC). "Department" means the Department of Housing and Community Development.

Department Having Jurisdiction. The Authority Having Jurisdiction, including any other law enforcement agency affected by any provision of this code, whether such agency is specifically named or not.

(HCD 1 & HCD 2) "Department Having Jurisdiction" shall mean "Enforcing Agency" as defined in Section 207.0 of this code.

Disposal Field (HCD 1). An intended destination for gray water, including but not limited to, a mulch basin or receiving landscape feature, gray water leach field, or other approved method of disposal.

207.0 **-E-**

Enforcing Agency (HCD 1, HCD 2 & HCD 1-AC). "Enforcing Agency" is the designated department or agency as specified by statute or regulation.

209.0 **-G-**

Graywater (HCD 1). Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers.

Note: For the purpose of applying the standards contained in this code, "Graywater" as defined above, has the same meaning as "gray water", "grey water", and "greywater".

Gray Water System (HCD 1). A system designed to collect gray water on-site for reuse or distribution to an irrigation or disposal field. A gray water system may include, on-site treated nonpotable water devices or equipment, tanks, valves, filters, pumps or other appurtenances along with piping and receiving landscape.

211.0 **-I-**

Irrigation Field (HCD 1). An intended destination for gray water in the receiving landscape, including but not limited to, a drip irrigation system, mulch basin, or other approved method of dispersal for irrigation purposes.

214.0 **-L-**

Labeled. Equipment or materials bearing a label of a listing agency (accredited conformity assessment body). See Listed (third-party certified).

(HCD 1 & HCD 2) "Labeled" means equipment or materials to which has been attached a label, symbol or other identifying mark of an organization, approved by the Department, that maintains a periodic inspection program of production of labeled products, installations, equipment, or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

Lavatory (HCD 1 & HCD 2). "Lavatory" shall mean a plumbing fixture used for washing the hands, arms, face and head.

Limited-Density Owner-Built Rural Dwelling (HCD 1). "Limited-density owner-built rural dwelling" shall mean any structure consisting of one or more habitable rooms intended or designed to be occupied by one family with facilities for living or sleeping, with use restricted to rural areas designated by local jurisdiction in compliance with the requirements of Health and Safety Code Section 17958.2.

Listed (HCD 1 & HCD 2). "Listed" means all products that appear in a list published by an approved testing or listing agency. For additional information, see Health and Safety Code Section 17920(h).

Listing Agency. An agency accredited by an independent and authoritative conformity assessment body to operate a material and product listing and labeling (certification) system and that is accepted by the Authority Having Jurisdiction, which is in the business of listing or labeling. The system includes initial and ongoing product testing, a periodic inspection on current production of listed (certified) products, and makes available a published report of such listing in which specific information is included that the material or product is in accordance with applicable standards and found safe for use in a specific manner.

(HCD 1 & HCD 2) "Listing Agency" means an agency approved by the department that is in the business of listing and labeling products, materials, equipment, and installations tested by an approved testing agency, and that maintains a periodic inspection program on current production of listed products, equipment, and installations, and that, at least annually, makes available a published report of these listings. For additional information, see Health and Safety Code Section 17920(i).

Low VOC Cement (HCD 1 & HCD 2). Cement with a volatile organic compound (VOC) content of less than or equal to 490 g/L for CPVC Cement, 510 g/L for PVC Cement, and 325 g/L for ABS Cement, as determined by the South Coast Air Quality Management District's Laboratory Methods of Analysis for Enforcement Samples, Method 316A.

Low VOC One-Step Cement (HCD 1 & HCD 2). Listed solvent cements that do not require the use of primer with a volatile organic compound (VOC) content of less than or equal to 490 g/L for CPVC Cement, 510 g/L for PVC Cement, and 325 g/L for ABS Cement, as determined by the South Coast Air Quality Management District's Laboratory Methods of Analysis for Enforcement Samples, Method 316A.

Low VOC Primer (HCD 1 & HCD 2). Primer with a volatile organic compound (VOC) content of less than or equal to 550 g/L, as determined by the South Coast Air Quality Management District's Laboratory Methods of Analysis for Enforcement Samples, Method 316A.

215.0

-M-

Mulch Basin (HCD 1). A subsurface type of irrigation or disposal field filled with mulch or other approved permeable material of sufficient depth, length, and width to prevent ponding or runoff. A mulch basin may include a basin around a tree, a trough along a row of plants, or other shapes necessary for irrigation or disposal.

216.0

-N-

Nonwater Supplied Urinal (HCD 1). A plumbing fixture which does not require water supply and is designed to receive and convey the uninhibited flow of liquid waste to the gravity drainage system.

Nuisance. Includes, but is not limited to:

- (1) A public nuisance known at common law or in equity jurisprudence.
- (2) Where work regulated by this code is dangerous to human life or is detrimental to health and property.
- (3) Inadequate or unsafe water supply or sewage disposal system.

(HCD 1 & HCD 2) "Nuisance" shall mean any nuisance as defined in Health and Safety Code Section 17920(k).

Notes:

1. For applications subject to the Mobilehome Parks Act as referenced in Section 1.8.3.2.2 of this code, refer to California Code of Regulations, Title 25, Division 1, Chapter 2 for the definition of "Nuisance".
2. For applications subject to the Special Occupancy Parks Act as referenced in Section 1.8.3.2.3 of this code, refer to California Code of Regulations, Title 25, Division 1, Chapter 2.2 for the definition of "Nuisance".

217.0

-O-

On-Site Treated Nonpotable Water (HCD 1). Nonpotable water that has been collected, treated, and intended to be used on-site and is suitable for direct beneficial use. Sources for on-site treated nonpotable water include, but are not limited to, gray water; rainwater; stormwater; reclaimed (recycled) water; cooling tower blow-down water; and foundation drainage.

220.0

-R-

Rainwater (HCD 1). Precipitation on any public or private parcel that has not entered an offsite storm drain system or channel, a flood control channel, or any other stream channel, and has not previously been put to beneficial use.

Rainwater Catchment System (HCD 1). A facility designed to capture, retain, and store rainwater flowing off a building, parking lot, or any other manmade impervious surface for subsequent onsite use. Rainwater catchment system is also known as "Rainwater Harvesting System" or "Rainwater Capture System."

Receiving Landscape (HCD 1). Includes features such as soil, basins, swales, mulch, and plants.

Reclaimed (Recycled) Water (HCD 1). Nonpotable water that meets California Department of Public Health statewide uniform criteria for disinfected tertiary recycled water. Reclaimed (recycled) water is also known as "recycled water" or "reclaimed water".

221.0

-S-

Simple System (HCD 1). A gray water system serving one-and two-family dwellings, townhouses, or other occupancies with a discharge of 250 gallons (947 L) per day or less. Simple systems exceed a clothes washer system.

222.0

-T-

Testing Agency (HCD 1). See "Approved Testing Agency".

Treated Gray Water (HCD 1). Nonpotable water meeting the definition of "gray water" collected and treated on-site suitable for direct beneficial use.

223.0

-U-

UPC (HCD 1). "UPC" is the latest edition of the Uniform Plumbing Code, published by the International Association of Plumbing and Mechanical Officials.

225.0

-W-

Water Closet (HCD 1). "Water Closet" is a plumbing fixture (which may be used for both solids and liquids) in which the waste matter is removed by flushing with water.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

4. HCD proposes to delete and NOT adopt the following Chapter 2 definitions from the 2015 Uniform Plumbing Code into the 2016 California Plumbing Code as follows:

**CHAPTER 2
DEFINITIONS**

Gray Water. Untreated wastewater that has not come into contact with toilet waste, kitchen sink waste, dishwasher waste or similarly contaminated sources. Gray water includes wastewater from bathtubs, showers, lavatories, clothes washers, and laundry tubs. Also known as grey water, graywater, and greywater.

Mulch Basin. A subsurface catchment area for gray water that is filled with mulch and of other sufficient depth and volume to prevent ponding, surfacing, or runoff.

On-Site Treated Nonpotable Water. Nonpotable water, including gray water that has been collected, treated, and intended to be used on-site and is suitable for direct beneficial use.

Rainwater. Natural precipitation that has not been contaminated by use.

Rainwater Catchment System. A system that utilizes the principal of collecting, storing, and using rainwater from a rooftop or other manmade, aboveground collection surface. Also known as a rainwater harvesting system.

Reclaimed Water. Nonpotable water provided by a water/wastewater utility that, as a result of tertiary treatment of domestic wastewater, meets requirements of the public health Authority Having Jurisdiction for its intended uses.

Single Family Dwelling. A building designed to be used as a home by the owner of such building, which shall be the only dwelling located on a parcel of ground with the usual accessory buildings.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

5. HCD proposes to adopt Chapter 3, (except Sections 301.3.1, 301.3.1.1 and 301.3.1.2), from the 2015 Uniform Plumbing Code with new amendments and bring forward existing amendments from the 2013 California Plumbing Code into 2016 California Plumbing Code as follows:

**CHAPTER 3
GENERAL REGULATIONS**

301.3 (Formerly 301.2) Alternate Materials and Methods of Construction Equivalency. Nothing in this code is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this code. Technical documentation shall be submitted to the Authority Having Jurisdiction to demonstrate equivalency. The Authority Having Jurisdiction shall have the authority to approve or disapprove the system, method, or device for the intended purpose. (HCD 1) (See Section 1.8.7).

However, the exercise of this discretionary approval by the Authority Having Jurisdiction shall have no effect beyond the jurisdictional boundaries of said Authority Having Jurisdiction. An alternate material or method of construction so approved shall not be considered as in accordance with the requirements, intent, or both of this code for a purpose other than that granted by the Authority Having Jurisdiction where the submitted data does not prove equivalency.

301.4.1 Coastal High Hazard Areas. Plumbing systems in buildings located in coastal high hazard areas shall be in accordance with the requirements of Section 301.4, and plumbing systems, pipes, and fixtures shall not be mounted on or penetrate through walls that are intended to breakaway under flood loads in accordance with the ~~building code~~ California Building Code or California Residential Code.

301.6 (Formerly 301.5) One- and Two-Family Dwellings. (HCD 1) *The provisions contained in this code shall not apply to one and two-family dwelling private sewage disposal systems and minimum plumbing facilities when alternate facilities or installations have been approved by the local health authority, provided that such alternative facilities or installations provide substantially equivalent or greater protection to health and safety.*

303.1 General. It shall be unlawful for a person to cause, suffer, or permit the disposal of sewage, human excrement, or other liquid wastes, in a place or manner, except through and by means of an approved drainage system, installed and maintained in accordance with the provisions of this code.

Exception: (HCD 1) Limited-density owner-built rural dwellings. *A water closet shall not be required when an alternate system is provided and has been approved by the local health official. Where an alternative to the water closet is installed, a system for the disposal or treatment of graywater shall be provided to the dwelling. Graywater systems shall be designed according to water availability, use and discharge. The design, use and maintenance standards of such systems shall be the prerogative of the local health official.*

304.1 General. Plumbing fixtures, drains, appurtenances, and appliances, used to receive or discharge liquid wastes or sewage, shall be connected properly to the drainage system of the building or premises, in accordance with the requirements of this code.

Exception: (HCD 1) Limited-density owner-built rural dwellings. *Where conventional plumbing, in all or in part, is installed within the structure, it shall be installed in accordance with the provisions of this code. Alternative materials and methods shall be permitted provided that the design complies with the intent of the code, and that such alternatives shall perform to protect health and safety for the intended purpose.*

312.2 Installation: Piping in connection with a plumbing system shall be so installed that piping or connections will not be subject to undue strains or stresses, and provisions shall be made for expansion, contraction, and structural settlement. No plumbing piping shall be directly embedded in concrete or masonry. No structural member shall be seriously weakened or impaired by cutting, notching, or otherwise, as defined in the ~~building code~~ California Building Code or California Residential Code.

312.7. Fire-Resistant Construction. Piping penetrations of fire-resistance-rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the ~~building code and Chapter 14, "Firestop Protection"~~ California Building Code or California Residential Code.

312.11 Structural Members. A structural member weakened or impaired by cutting, notching, or otherwise shall be reinforced, repaired, or replaced so as to be left in a safe structural condition in accordance with the requirements of the ~~building code~~ California Building Code or California Residential Code.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

6. HCD proposes to adopt Chapter 4, (except Sections 411.2.2, 422.2, 422.4 and 422.5), from the 2015 Uniform Plumbing Code with new amendments and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code as follows:

**CHAPTER 4
PLUMBING FIXTURES AND FIXTURE FITTINGS**

401.3 Water-Conserving Fixtures and Fittings. (Formerly 403.0) (HCD 1) *Note: On or after January 1, 2014, residential Residential buildings undergoing permitted alterations, additions or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.43, et seq. for the definition of a noncompliant plumbing fixture, types of buildings affected and other subsequent enactment dates.*

403.1 General (Formerly 402.7 Accessible Plumbing Facilities). Where accessible facilities are 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 disabilities, see California Code of Regulations, Title 24, Part 2, Chapter 11A of the California Building Code.*

403.2 General. (Formerly 421.1 Fixtures and Fixture Fittings for Persons with Disabilities.) Plumbing fixtures and fixture fittings for persons with disabilities shall comply with ICC A117.1 and the applicable standards referenced in Chapter 4. (HCD 1-AC) *Specific requirements regarding accommodations for persons with disabilities are contained in California Code of Regulations, Title 24, Part 2, Chapter 11A of the California Building Code. Table 1401.1 does not contain the correct accessibility standards for use in California.*

407.2.1 Maximum Flow Rate. The maximum flow rate for public lavatory faucets shall not exceed 0.5 gpm at 60 psi (1.9 L/m at 414 kPa), and 2.2 gpm at 60 psi (8.3 L/m at 414 kPa) for private lavatory faucets in accordance with ASME A112.18.1/CSA B125.1.

407.2.1.1 (Formerly 403.6) Kitchen Faucets. (HCD 1) *The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons (6.81 L) per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons (8.32L) per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons (6.81 L) per minute at 60 psi.*

Note: Where faucets meeting the maximum flow rate of 1.8 gpm (6.81 L) are unavailable, aerators or other means may be used to achieve reduction.

407.2.1.2 (Formerly 403.7) Residential Lavatory Faucets (HCD 1) *On or after July 1, 2016, the The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons (4.54 L) per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons (3.03 L) per minute at 20 psi.*

407.2.1.3 (Formerly 403.8) Lavatory Faucets in Common and Public Use Areas. (HCD 1 & HCD 2) *The maximum flow rate of lavatory faucets, installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings, shall not exceed 0.5 gallons (1.89 L) per minute at 60 psi.*

408.2 Water Consumption. (HCD 1) *Showerheads shall have a maximum flow rate of not more than 2.5 gpm at 80 psi (0.16L/s at 552 kPa), in accordance with ASME A112.18.1/CSA B125.1. Showerheads shall have a maximum flow rate of 2.0 gallons (7.57 L) per minute measured at 80 psi and must comply with Division 4.3 of the California Green Building Standards Code (CALGreen).*

408.5 Finished Curb or Threshold. Where a shower receptor has a finished dam, curb, or threshold it shall not be less than 1 inch (25.4 mm) lower than the sides and back of such receptor. In no case shall a dam or threshold be less than 2 inches (51 mm) or exceeding 9 inches (229 mm) in depth where 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 not less than 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 towards the drain not less than 1/4 inch per foot (20.8 mm/m), nor more than 1/2 inch per foot (41.8 mm/m).

Thresholds shall be of sufficient width to accommodate a minimum 22 inch (559 mm) door. Shower doors shall open so as to maintain not less than a 22 inch (559 mm) unobstructed opening for egress. The immediate adjoining space to showers without thresholds shall be considered a wet location and shall comply with the requirements of the building, residential, and electrical codes *California Building, California Residential and California Electrical Codes*.

Exceptions:

- (1) Showers that are designed to be in accordance with the accessibility standards listed in Table 1701.4 in *Chapter 11A of the California Building Code (HCD 1-AC)* Specific requirements regarding accommodations for persons with disabilities are contained in *California Code of Regulations, Title 24, Part 2, Chapter 11A of the California Building Code*. ~~Table 1401.4 does not contain the correct accessibility standards for use in California.~~
- (2) A cast iron shower receptor flange shall be not less than 0.3 of an inch (7.62 mm) in height.
- (3) For flanges not used as a means of securing, the sealing flange shall be not less than 0.3 of an inch (7.62 mm) in height.

408.6 Shower Compartments. Shower compartments, regardless of shape, shall have a minimum finished interior of 1024 square inches (0.6606 m²) and shall also be capable of encompassing a 30 inch (762 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 area and dimensions shall be maintained to a point of not less than 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 30 inch (762 mm) circle.

Exceptions:

- (1) Showers that are designed to comply with ~~ICC A117.4 Chapter 11A of the California Building Code~~.
- (2) The minimum required area and dimension shall not apply for a shower receptor having overall dimensions of not less than 30 inches (762 mm) in width and 60 inches (1524 mm) in length.
- (3) **(HCD 1-AC)** Specific requirements regarding accommodations for persons with disabilities are contained in *California Code of Regulations, Title 24, Part 2, Chapter 11A of the California Building Code*. ~~ICC/ANSI A117.1, Standard for Accessible and Usable Buildings and Facilities, does not contain the correct accessibility standards for use in California.~~

411.2 (Formerly 403.2.1 Water Closets on or after July 1, 2011) Water Consumption. ~~Water Closets shall have a maximum consumption not to exceed 1.6 (6.0 Lpf) of water per flush in accordance with ASME A112.19.2/CSA B45.4. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush when tested in accordance with ASME A112.19.2/CSA B45.1.~~

411.2.1.2 (Formerly 403.2.1.1) Performance [HCD 1 & HCD 2] ~~Water closets installed on or after July 2, 2011, shall meet or exceed the minimum performance criteria developed for certification of high-efficiency toilets under the WaterSense program sponsored by the U.S. Environmental Protection Agency (EPA).~~

412.1 (Formerly 403.3 Urinals) Application. Urinals shall comply with ASME A112.19.2/CSA B45.1, ASME A112.19.19, or CSA B45.5/IAPMO Z124. ~~On or after January 1, 2016, wall mounted urinals shall have an average water consumption not to exceed 0.125 gallons (0.47 L) of water per flush. Urinals Other urinals shall have an average water consumption not to exceed 4-gallon (3.8 Lpf) 0.5 gallons (1.89 L) of water per flush.~~

412.1.1 (Formerly 403.3.1) Nonwater Urinals. Nonwater urinals shall have a barrier liquid sealant to maintain a trap seal. Nonwater urinals shall permit the uninhibited flow of waste through the urinal to the sanitary drainage system. Nonwater urinals shall be cleaned and maintained in accordance with the manufacturer's instructions after installation. Where nonwater urinals are installed, not less than one water supplied fixture rated at not less than 1 water supply fixture unit (WSFU) shall be installed upstream on the same drain line to facilitate drain line flow and rinsing. Where nonwater urinals are installed they shall have a water distribution line rough-in to the urinal location to allow for the installation of an approved backflow prevention device in the event of a retrofit. *For additional information, see Health and Safety Code Section 17921.4.*

415.0 Drinking Fountains.

415.1 Application. Drinking fountains shall be self-closing and comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, or ASME A112.19.3/CSA B45.4, and NSF 61. Permanently installed electric water coolers shall also comply with UL 399. **(HCD 1)** *Drinking fountains shall be installed and so regulated that a jet of water*

extending at least 2 inches (51 mm) in height from the water orifice shall be constantly available. The orifice shall not be accessible to the mouth of the drinker nor subject to immersion.

422.1 Fixture Count. Plumbing fixtures shall be provided for the type of building occupancy and in the minimum number shown in Table 422.1. The total occupant load and occupancy classification shall be determined in accordance with the building code *California Building Code*. Occupancy classification not shown in Table 422.1 shall be considered separately by the Authority Having Jurisdiction.

**TABLE 422.1
MINIMUM PLUMBING FACILITIES¹**

Each building shall be provided with sanitary facilities, including provisions for persons with disabilities as prescribed by the Department Having Jurisdiction⁷. Table 422.1 applies to new buildings, additions to a building, and changes of occupancy or type in an existing building resulting in increased occupant load.

For requirements for persons with disabilities, Chapter 11A of the California Building Code shall be used.

Exceptions:

- (1) **(HCD 1-AC & HCD 2)** For applications listed in Sections 1.8.2.1.2 and 1.8.2.1.3 regulated by the Department of Housing and Community Development, each building shall be provided with sanitary facilities, including provisions for persons with disabilities as prescribed by the Department. Covered multifamily dwellings required to be accessible to persons with disabilities shall comply with *California Code of Regulations, Title 24, Part 2, Chapter 11A of the California Building Code*. Permanent buildings in mobilehome parks and special occupancy parks required to be accessible by persons with disabilities, shall comply with *California Code of Regulations, Title 24, Part 2, Chapter 11B of the California Building Code*.
- (2) **(HCD 1)** For limited density owner-built rural dwelling sanitary facilities, the type, design and number of facilities as required and approved by the local health official shall be provided to the dwelling sites. It shall not be required that such facilities be located within the dwelling.

....(No Changes to Table)

Notes:

- 4 7. In accordance with Sections 1.8.7 and ~~301.2~~ **301.3**, the Authority Having Jurisdiction may approve alternative designs criteria when determining the minimum number of plumbing fixtures.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

7. HCD proposes to repeal existing California amendments from Chapter 4 of the 2013 California Plumbing Code, and not bring these amendments forward into the 2016 California Plumbing Code, as follows:

**CHAPTER 4
PLUMBING FIXTURES AND FIXTURE FITTINGS**

~~403.2.1 Water Closets on or after July 1, 2011 [HCD 1 & HCD 2]~~ Water closets, either flush tank, flushometer tank, or flushometer valve operated installed on or after July 1, 2011, shall have an effective flush volume in compliance with the following:

- (1) **~~Single Flush Toilets~~** ~~The effective flush volume shall not exceed 1.28 gallons (4.8 liters) when tested in accordance with ASME A112.19.2, Standard for Vitreous China Plumbing Fixtures and Hydraulic Fixtures Requirements for Water Closets and Urinals~~

(2) Dual Flush Toilets – The effective flush volume shall not exceed 1.28 gallons (4.8 liters) when tested in accordance with ASME A112.19.2, Standard for Vitreous China Plumbing Fixtures and Hydraulic Fixtures Requirements for Water Closets and Urinals, and ASME A112.19.14, Standard for Six-Liter Water Closets Equipped with a Dual Flushing Device.

403.3.1.1 Nonwater Urinal Drainage Connections. Where nonwater urinals are installed, not less than one water-supplied fixture rated at not less than 1 drainage fixture unit (DFU) shall be installed upstream on the same drain line to facilitate drain line flow and rinsing.

403.4 Metered Faucets. Self-closing or self-closing metering faucets shall be installed on lavatories intended to serve the transient public, such as those in, but not limited to, service stations, train stations, airports, restaurants, and convention halls. *Metered faucets shall deliver a maximum of 0.25 gallons (0.95 L) of water per use.*

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

8. HCD proposes to adopt Chapter 5 from the 2015 Uniform Plumbing Code and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code as follows:

**CHAPTER 5
WATER HEATERS**

507.2 Seismic Provisions. In seismic design categories C, D, E, and F, water heaters shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strapping shall be at points within the upper one-third and lower one-third of its vertical dimensions. At the lower point, a minimum distance of not less than 4 inches (102 mm) shall be maintained from the controls with the strapping.

Note: (HCD 1 & HCD 2) Reference Health and Safety Code Section 19211(a) which addresses new, replacement, and existing water heaters.

Section 19211(a) Notwithstanding Section 19100, all new and replacement water heaters, and all existing residential water heaters shall be braced, anchored, or strapped to resist falling or horizontal displacement due to earthquake motion. At a minimum, any water heater shall be secured in accordance with the California Plumbing Code, or modifications made thereto by a city, county, or city and county pursuant to Section 17958.5.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

9. **HCD proposes to adopt Chapter 6 (except Section 609.10) from the 2015 Uniform Plumbing Code with new amendments and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code as follows:**

**CHAPTER 6
WATER SUPPLY AND DISTRIBUTION**

601.2 Hot and Cold Water Required. (Formerly 601.1 General) Except where not deemed necessary for safety or sanitation by the Authority Having Jurisdiction, each plumbing fixture shall be provided with an adequate supply of potable running water piped thereto in an approved manner, so arranged as to flush and keep it in a clean and sanitary condition without danger of backflow or cross-connection. Water closets and urinals shall be flushed by means of an approved flush tank or flushometer valve.

Exceptions:

1. Listed fixtures that do not require water for their operation and are not connected to the water supply.
2. **(HCD 1 & HCD 2)** For limited-density owner-built rural dwellings, potable water shall be available to the dwelling site, although such water need not be pressurized. Where water is not piped from a well, spring, cistern or other source, there shall be a minimum reserve of 50 gallons (189 L) of potable water available. Where water delivery is pressurized, piping shall be installed in accordance with the provisions of this chapter.
3. ~~**(HCD 1 & HCD 2)** Where deemed not necessary for safety or sanitation by the Enforcing Agency.~~
4. **3. (HCD 1 & HCD 2)** Recycled water or treated graywater may be allowed as specified in Chapter 16A Part II, and on-site treated nonpotable gray water as specified in Chapter 15, Section 1504 of this code.

In occupancies where plumbing fixtures are installed for private use, hot water shall be required for bathing, washing, laundry, cooking purposes, dishwashing or maintenance. In occupancies where plumbing fixtures are installed for public use, hot water shall be required for bathing and washing purposes. This requirement shall not supersede the requirements for individual temperature control limitations for public lavatories and public and private bidets, bathtubs, whirlpool bathtubs, and shower control valves.

601.3.2 (Formerly 601.2.2) Color and Information. Each system shall be identified with a colored pipe or band and coded with paints, wraps and materials compatible with the piping.

Except as required in Sections 601.3.3, nonpotable water systems shall have a yellow background with black uppercase lettering, with the words "CAUTION: NONPOTABLE WATER, DO NOT DRINK." Each nonpotable system shall be identified to designate the liquid being conveyed, and the direction of normal flow shall be clearly shown. The minimum size of the letters and length of the color field shall comply with Table 601.3.2. **(HCD 1 & HCD 2)** An international symbol of a glass in a circle with a slash through it shall be provided similar to that shown in Figure 601 for all nonpotable water systems.

The background color and required information shall be indicated every twenty 20 feet (6096 mm) but not less than once per room, and shall be visible from the floor level.



**FIGURE 601
INTERNATIONAL SYMBOL**

603.5.11 Nonpotable Water Piping. In cases where it is impractical to correct individual cross-connections on the domestic waterline, the line supplying such outlets shall be considered a nonpotable water line. No drinking or domestic water outlets shall be connected to the nonpotable waterline. Where possible, portions of the nonpotable waterline shall be exposed, and exposed portions shall be properly identified in a manner satisfactory to the Authority Having Jurisdiction. Each outlet on the nonpotable waterline that is permitted to be used for drinking or domestic purposes shall be posted: "CAUTION: NONPOTABLE WATER, DO NOT DRINK." (HCD 1 & HCD 2) An international symbol of a glass in a circle with a slash through it shall be provided similar to that shown in Figure 601.

TABLE 604.1
MATERIALS FOR BUILDING SUPPLY AND WATER DISTRIBUTION WATER PIPING AND FITTINGS

....(No Changes to Table)

For Building Supply or cold-water applications.

- 1 When PEX tubing is placed in soil and is used in potable water systems intended to supply drinking water to fixtures or appliances, the tubing or piping shall be sleeved with a material approved for potable water use in soil or other material that is impermeable to solvents or petroleum products.
- 2 PEX tubing shall meet or exceed the requirements of ASTM F876-082013a or an equivalent or more stringent standard when used in continuously recirculating hot water systems and the PEX tubing is exposed to the hot water 100% of the time.
- 3 The use of PEX-AL-PEX in potable water supply systems is not adopted.

604.1.1 Local Authority to Approve CPVC Pipe Within Residential Buildings Under Specified Conditions. (HCD 1 & HCD 2) The local responsible building official of any city, county, or city and county, shall authorize by permit the use of CPVC for hot and cold water distribution systems within the interior of residential buildings provided all of the following conditions are satisfied:

- (a) **Permit Conditions.** Any building permit issued pursuant to Section 604.1.1 shall be conditioned on compliance with the mitigation measures set forth in this section.
- (b) **Approved Materials.** Only CPVC plumbing material listed as an approved material and installed in accordance with this code may be used.
- (c) **Installation and Use.** Any installation and use of CPVC plumbing material pursuant to this section shall comply with all applicable requirements of this code and ~~Section 1.2 of Appendix I of this code, Installation Standard for CPVC Solvent Cemented Hot and Cold Water Distribution Systems, IAPMO IS 20-2010~~ the manufacturer's installation instructions.
- (d) **Certification of Compliance.** Prior to issuing a building permit pursuant to Section 604.1.1, the building official shall require as part of the permitting process that the contractor, or the appropriate plumbing subcontractors, provide written certification: (1) that is required in subdivision (e), and (2) that he or she will comply with the flushing procedures and worker safety measures ~~set forth in Section 1.2 of Appendix I of this code, Installation Standard for CPVC Solvent Cemented Hot and Cold Water Distribution Systems, IAPMO (IS 20-2010) of this code and the manufacturer's installation instructions.~~
- (e) **Worker Safety.** Any contractor applying for a building permit that includes the use of CPVC plumbing materials authorized pursuant to this section shall include in the permit application a signed written certification stating that:
 - (1) They are aware of the health and safety hazards associated with CPVC plumbing installations;
 - (2) They have included in their Injury and Illness Prevention Plan the hazards associated with CPVC plumbing pipe installations; and
 - (3) The worker safety training elements of their Injury and Illness Prevention Plan meet the Department of Industrial Relation's guidelines.
- (f) **Findings of Compliance.** The building official shall not give final permit approval of any CPVC plumbing materials installed pursuant to Section 604.1.1 unless he or she finds that the material has been installed in compliance with the requirements of this code ~~and that the installer has complied with the requirements in Section 1.2.1 of Appendix I of this code, Installation Standards for CPVC Solvent~~

Cemented Hot and Cold Water Distribution Systems, (IAPMO IS 20-2010) and the manufacturer's installation instructions.

- (g) **Penalties.** Any contractor or subcontractor found to have failed to comply with the flushing, requirements of Section 1.2.1 of Appendix I of this code or the ventilation, and glove requirements of Section 1.2.2 of Appendix I of this code, Installation Standards for CPVC Solvent Cemented Hot and Cold Water Distribution Systems, (IAPMO IS 20-2010) of this code and the manufacturer's installation instructions shall be subject to the penalties in Health and Safety Code, Division 13, Part 1.5, Chapter 6 (Section 17995 et seq.). In addition, if during the conduct of any building inspection the building official finds that the ventilation and glove requirements of Section 2.7.1 of Appendix I of this code, "Special Requirements for CPVC Installation within Residential Buildings," this code are being violated, such building officials shall cite the contractor or subcontractor for that violation

*****Informative Note: (Do not Publish in Code)** The following provisions have been relocated from an existing California amendment in Installation Standard IAPMO IS-20-2010.

4-2 (h) Special Requirements for CPVC Installation within Residential Structures. (HCD 1)

In addition to the other requirements in the California Plumbing Code and this Appendix for the installation of CPVC Solvent Cemented Hot and Cold Water Distributions Systems, all installations of CPVC pipe within residential structures shall meet the following:

4-2.4 (i) Flushing Procedures. (HCD 1) All installations of CPVC pipe within residential structures shall be flushed twice over a period of at least one (1) week. The pipe system shall be first flushed for at least 10 minutes and then filled and allowed to stand for no less than 1 week, after which all the branches of the pipe system must be flushed long enough to fully empty the contained volume. At the time of the fill, each fixture shall have a removable tag applied stating:

"This new plumbing system was first filled on (date) by (name). The California Department of Housing and Community Development requires that the system be flushed after standing at least one week after the fill date specified above. If the system is used earlier than one week after the fill date, the water must be allowed to run for at least two minutes prior to use for human consumption. This tag may not be removed prior to flushing, except by the homeowner."

4-2.2 (j) Worker Safety Measures. (HCD 1) Mechanical ventilation sufficient to maintain exposures below the relevant exposure limits established by state regulation shall be provided in enclosed spaces. This ventilation shall be directed at the breathing zone of the worker installing the pipe. Where mechanical ventilation is not practical, respirators, suitable for organic vapors, shall be used. For the purpose of this subdivision, an enclosed space is defined as:

- (a) (1) A space less than 100 square feet of floor area under a ceiling with a height of 10 feet or less, and which does not have openings (consisting of doors, windows, or unfinished walls) on at least two sides;
- (b) (2) Crawl spaces having a height of less than three feet;
- (c) (3) Enclosed attics that have a roof and ceiling; or
- (d) (4) Trenches having a depth greater than 24 inches.

Installers of CPVC pipe within residential structures shall use non-latex thin gauge (4 millimeters) nitrile gloves, or other gloves providing an equivalent or better degree of protection during the installation of the CPVC plumbing system. Gloves shall be provided to all workers by the contractor, or plumbing subcontractor, and shall be replaced upon contamination by cements.

604.1.2 PEX. All installations of PEX pipe where it is the initial plumbing piping installed in new construction shall be flushed twice over a period of at least one week. The pipe system shall be first flushed for at least 10 minutes and then filled and allowed to stand for no less than 1 week, after which all the branches of the pipe system must be flushed long enough to fully empty the contained volume. This provision shall not apply to the installation of PEX pipe where it replaces an existing pipe system of any material.

- (1) At the time of fill, each fixture shall have a removable tag applied stating:

- (a) "This new plumbing system was first filled and flushed on _____ (date) by _____ (name). The State of California requires that the system be flushed after standing at least one week after the fill date specified above. If this system is used earlier than one week after the fill date, the water must be allowed to run for at least two minutes prior to use for human consumption. This tag may not be

removed prior to the completion of the required second flushing, except by the building owner or occupant."

- (2) Prior to issuing a building permit to install PEX pipe, the building official shall require as part of the permitting process that the contractor, or the appropriate plumbing subcontractors, provide written certification that he or she will comply with the flushing procedures set forth in the code.
- (3) The building official shall not give final permit approval of any PEX plumbing installation unless he or she finds that the material has been installed in compliance with the requirements of the code, including the requirements to flush and tag the systems.
- (4) Any contractor or subcontractor found to have failed to comply with the PEX flushing requirements shall be subject to the penalties in Health and Safety Code, Division 13, Part 1.5, Chapter 6 (Section 17995, et seq.).

604.13 Water Heater Connectors. Flexible metallic (copper and stainless steel), reinforced flexible, braided stainless steel, or polymer braided with EPDM core connectors that connect a water heater to the piping system shall be in accordance with ASME A112.18.6/CSA B125.6. Copper, copper alloy, or stainless steel flexible connectors shall not exceed 24 inches (610 mm). PEX, PEX-AL-PEX, PE-AL-PE, or PE-RT tubing shall not be installed within the first 18 inches (457 mm) of piping connected to a water heater.

(HCD 1 & HCD 2) PEX-AL-PEX is not adopted for use in potable water supply and distribution systems.

605.2.2 (Formerly 605.4.2) Solvent Cement Joints. Solvent cement joints for CPVC pipe and fittings shall be clean from dirt and moisture. Solvent cements in accordance with ASTM F 493, requiring the use of a primer shall be orange in color. The primer shall be colored and be in accordance with ASTM F 656. Listed solvent cement in accordance with ASTM F 493 that does not require the use of primers, yellow or red in color, shall be permitted for pipe and fittings manufactured in accordance with ASTM D 2846, ½ of an inch (15 mm) through 2 inches (50 mm) in diameter or ASTM F 442, ½ of an inch (15 mm) through 3 inches (80 mm) in diameter. Apply primer where required inside the fitting and to the depth of the fitting on pipe. Apply liberal coat of cement to the outside surface of pipe to depth of fitting and inside of fitting. Place pipe inside fitting to forcefully bottom the pipe in the socket and hold together until joint is set.

(HCD 1 & HCD 2) Low VOC One-Step Cement that does not require the use of primer shall be utilized with CPVC pipe and fittings, manufactured in accordance with ASTM D 2846.

605.10 (Formerly 605.11) PEX-AL-PEX Plastic Tubing and Joints. PEX-AL-PEX plastic pipe or tubing and fitting joining methods shall be installed in accordance with the manufacturer's installation instructions and shall comply with 605.10.1 and Section 605.10.1.1

(HCD 1 & HCD 2) PEX-AL-PEX is not adopted for use in potable water supply and distribution systems.

605.12.2 (Formerly 605.13.2) Solvent Cement Joints. Solvent cement joints for PVC pipe and fittings shall be clean from dirt and moisture. Pipe shall be cut square and pipe shall be deburred. Where surfaces to be joined are cleaned and free of dirt, moisture, oil, and other foreign material, apply primer purple in color in accordance with ASTM F 656. Primer shall be applied until the surface of the pipe and fitting is softened. Solvent cements in accordance with ASTM D 2564 shall be applied to all joint surfaces. Joints shall be made while both the inside socket surface and outside surface of pipe are wet with solvent cement. Hold joint in place and undisturbed for 1 minute after assembly.

(HCD 1 & HCD 2) Plastic pipe and fittings joined with solvent cement shall utilize Low VOC primer(s), if a primer is required, and Low VOC solvent cement(s) as defined in Section 214.

605.15 (Formerly 605.16) Dielectric Unions. Dielectric unions where installed at points of connection where there is a dissimilarity of metals shall be in accordance with ASSE 1079. *(HCD 1 & HCD 2) Dielectric unions shall be used at all points of connection where there is a dissimilarity of metals.*

607.1 General. Potable water supply tanks shall be installed in accordance with the manufacturer's installation instructions, and supported in accordance with the ~~building code~~ California Building Code.

609.10 Water Hammer. (Not adopted by HCD)

**TABLE 610.3
WATER SUPPLY FIXTURE UNITS (WSFU) AND MINIMUM FIXTURE BRANCH PIPE SIZES ³**

APPLIANCES, APPURTENANCES OR FIXTURES ²	MINIMUM FIXTURE BRANCH PIPE SIZE ^{1,4} (inches)	PRIVATE	PUBLIC	ASSEMBLY ⁶
Mobile Home <i>Mobilehome or Manufactured Home</i> , each (minimum) ⁹	—	12.0 <u>6.0</u>	—	—

For SI units: 1 inch = 25 mm

Notes:

⁹ ~~[HCD 2]~~ For water supply fixture unit values related to *lots within* mobilehome parks in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2, Article 5, Section 1278. For water supply fixture unit values related to *lots within* 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 2278.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

10. HCD proposes to repeal an existing California amendment from Chapter 6 of the 2013 California Plumbing Code as follows:

**CHAPTER 6
WATER SUPPLY AND DISTRIBUTION**

604.11 Lead Content. Water pipe and fittings with a lead content which exceeds 8 percent shall be prohibited in piping systems used to convey potable water.

Note: On or after January 1, 2010, see Section 116875 of the Health and Safety Code for the lead content of pipes, pipe or plumbing fittings, or fixtures intended to convey or dispense water for human consumption.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

11. HCD proposes to adopt Chapter 7 from the 2015 Uniform Plumbing Code with new amendments and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code as follows:

**CHAPTER 7
SANITARY DRAINAGE**

Part I – Drainage Systems.

701.2 (Formerly 701.1) Drainage Piping. Materials for drainage piping shall be in accordance with one of the referenced standards in Table 701.2 except that:

- (1) No galvanized wrought-iron or galvanized steel pipe shall be used underground and shall be kept not less than 6 inches (152 mm) aboveground.
- (2) ABS and PVC DWV piping installations shall be installed in accordance with applicable standards referenced in Table 1701.1, and Chapter 14 “Firestop Protection” this code, and the California Building Code. Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of a maximum of 25 and a smoke-developed index of a maximum 50, where tested in accordance with ASTM E84 or UL 723.
 - (a) **(HCD 1 & HCD 2)** *ABS and PVC installations are limited to not more than two stories of areas of residential accommodation.*
- (3) No vitrified clay pipe or fittings shall be used aboveground or where pressurized by a pump or ejector. They shall be kept not less than 12 inches (305 mm) belowground.
- (4) Copper or copper alloy tube for drainage and vent piping shall have a weight of not less than that of copper or copper alloy drainage tube type DWV.
- (5) Stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than 6 inches (152 mm) aboveground.
- (6) Cast-iron soil pipe and fittings shall be listed and tested in accordance with standards referenced in Table 1701.1. Such pipe and fittings shall be marked with the country of origin and identification of the original manufacturer in addition to markings required by referenced standards.

**TABLE 702.1
DRAINAGE FIXTURE UNIT VALUES (DFU)**

PLUMBING APPLIANCES, APPURTENANCES, OR FIXTURES	MINIMUM SIZE TRAP AND TRAP ARM ⁷ (INCHES)	PRIVATE	PUBLIC	ASSEMBLY ⁸
Mobile Home trap ⁹ <i>Mobilehome or Manufactured Home</i>	3	4.0 <u>6.0</u>	—	—

For SI units: 1 inch = 25 mm

Notes:

⁹ **(HCD 2)** *For drainage fixture unit values related to lots within mobilehome parks in all parts of the State of California, see California Code of Regulations, Title 25, Division 1, Chapter 2, Article 5, Section 1268. For drainage fixture unit values related to lots within 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.*

705.1.2 Solvent Cement Joints. Solvent cement joints for ABS pipe and fittings shall be clean from dirt and moisture. Pipe shall be cut square and shall be deburred. Where surfaces to be joined are cleaned and free of dirt, moisture, oil, and other foreign material, solvent cement in accordance with ASTM D2235 shall be applied to all joint surfaces. Joints shall be made while both the inside socket surface and outside surface of pipe are wet with solvent cement. Hold joint in place and undisturbed for 1 minute after assembly.

(HCD 1 & HCD 2) *Plastic pipe and fittings joined with solvent cement shall utilize Low VOC primer(s), if a primer is required, and Low VOC cement(s) as defined in Section 214.0.*

705.5.2 Solvent Cement Joints. Solvent cement joints for PVC pipe and fittings shall be clean from dirt and moisture. Pipe shall be cut square and pipe shall be deburred. Where surfaces to be joined are cleaned and free of dirt, moisture, oil, and other foreign material, apply primer purple in color in accordance with ASTM F656. Primer shall be applied until the surface of the pipe and fitting is softened. Solvent cements in accordance with ASTM D2564 shall be applied to all joint surfaces. Joints shall be made while both the inside socket surface and outside surface of pipe are wet with solvent cement. Hold joint in place and undisturbed for 1 minute after assembly.

(HCD 1 & HCD 2) Plastic pipe and fittings joined with solvent cement shall utilize Low VOC primer(s), if a primer is required, and Low VOC cement(s) as defined in Section 214.0.

705.8.4 (Formerly 705.10.4) Transition Joint. A solvent cement transition joint between ABS and PVC building drain and building sewer shall be made using listed transition solvent cement in accordance with ASTM D3138.

(HCD 1 & HCD 2) Plastic pipe and fittings joined with solvent cement shall utilize Low VOC primer(s), if a primer is required, and Low VOC solvent cement(s) as defined in Section 214.0.

710.3 Sewage Ejector and Pumps. A sewage ejector or sewage pump receiving the discharge of water closets or urinals:

- (1) Shall have a discharge capacity of not less than 20 gpm (1.26 L/s).
- (2) In single dwelling units, the ejector or pump shall be capable of passing a 1 1/2 inch (38 mm) diameter solid ball, and the discharge piping of each ejector or pump shall have a backwater valve and gate valve, and be not less than 2 inches (50 51 mm) in diameter.
- (3) In other than single-dwelling units, the ejector or pump shall be capable of passing a 2 inch (51 mm) diameter solid ball, and the discharge piping of each ejector or pump shall have a backwater valve and gate valve, and be not less than 3 inches (80 mm) in diameter.

710.3.1 (HCD 1 & HCD 2) The minimum size of any pump or any discharge pipe from a sump having a water closet connected thereto shall be not less than (2) inches (50 51 mm).

713.4 Public Sewer Availability. The public sewer shall be permitted to be considered as not being available where such public sewer or a building or an exterior drainage facility connected thereto is located more than 200 feet (60 960 mm) from a proposed building or exterior drainage facility on a lot or premises that abuts and is served by such public sewer.

(HCD 1) For residential occupancies, the public sewer may be considered as not being available by the Authority Having Jurisdiction.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

12. HCD proposes to adopt Chapter 8 from the 2015 Uniform Plumbing Code into the 2016 California Plumbing Code without amendment:

CHAPTER 8 INDIRECT WASTES

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

13. HCD proposes to adopt Chapter 9 from the 2015 Uniform Plumbing Code with new amendments, and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code as follows:

**CHAPTER 9
VENTS**

903.1 Applicable Standards. Vent pipe and fittings shall comply with the applicable standards referenced in Table 701.2, except that:

- (1) No galvanized steel or 304 stainless steel pipe shall be install underground and shall be not less than 6 inches (152 mm) aboveground.
- (2) ABS and PVC DWV piping installations shall be in accordance with the applicable standards referenced in Table 1701.1, and Chapter 14 "Firestop Protection" *this code, and the California Building Code*. Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of not more than 25 and a smoke-developed index of not more than 50 where tested in accordance with ASTM E84 or UL 723.

903.1.1 (HCD 1 & HCD 2) *ABS or PVC installations are limited to not more than two stories of areas of residential accommodation.*

903.1.2 (HCD 1) *All malleable iron vents shall be galvanized.*

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

14. HCD proposes to adopt Chapter 10 from the 2015 Uniform Plumbing Code with a new amendment and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code as follows:

**CHAPTER 10
TRAPS AND INTERCEPTORS**

1003.1 General Requirements. Each trap, except for traps within an interceptor or similar device shall be self-cleaning. Traps for bathtubs, showers, lavatories, sinks, laundry tubs, floor drains, urinals, drinking fountains, dental units, and similar fixtures shall be of standard design, weight and shall be of ABS, cast-brass, cast-iron, lead, PP, PVC, or other approved material. An exposed and readily accessible drawn-copper alloy tubing trap, not less than 17 B & S Gauge (0.045 inch) (1.143 mm), shall be permitted to be used on fixtures discharging domestic sewage.

Exceptions:

- (2) **(HCD 1 & HCD 2)** *Non-water supplied urinals conforming to ASME A112.19.19-2006, Standard for Vitreous China Nonwater Urinals, or reference standards in Table 4401.1 1701.1 for non-vitreous ceramic or plastic urinal fixtures.*

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690,

18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

15. HCD proposes to adopt Chapter 11 from the 2015 Uniform Plumbing Code with new amendments and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code as follows:

**CHAPTER 11
STORM DRAINAGE**

1101.4 (Formerly 1101.3) Material Uses. Pipe, tube, and fittings conveying rainwater shall be of such materials and design as to perform their intended function to the satisfaction of the Authority Having Jurisdiction. Conductors within a vent or shaft shall be of cast-iron, galvanized steel, wrought iron, copper, copper alloy, lead, Schedule 40 ABS DWV, Schedule 40 PVC DWV, stainless steel 304 or 316L (stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than 6 inches (152 mm) aboveground), or other approved materials, and changes in direction shall be in accordance with the requirements of Section 706.0. ABS and PVC DWV piping installations shall be installed in accordance with Chapter 14 "Firestop Protection" *this code, and the California Building Code*. Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of a maximum of 25 and a smoke-developed index of a maximum of 50, where tested in accordance with ASTM E84 and UL 723.

(HCD 1) ABS or PVC installations are limited to not more than two stories of areas of residential accommodation.

1101.4.2.1 (Formerly 1102.1.2) (HCD 1) ABS or PVC installations are limited to not more than two stories of areas of residential accommodation.

1101.6 (Formerly 1101.5) Subsoil Drains. Subsoil drains shall be provided around the perimeter of buildings having basements, cellars, or crawl spaces or floors below grade. Such subsoil drains shall be permitted to be positioned inside or outside of the footing, shall be of perforated or open-jointed approved drain tile or pipe, not less than 3 inches (80 mm) in diameter, and shall be laid in gravel, slag, crushed rock, approved 3/4 inch (19.1 mm) crushed, recycled glass aggregate, or other approved porous material with not less than 4 inches (102 mm) surrounding the pipe. Filter media shall be provided for exterior subsoil piping.

Exception: (HCD 1 & HCD 2) Subsoil drains are mandatory only when required by the Authority Having Jurisdiction due to geological conditions.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

16. HCD proposes to adopt Chapter 12 from the 2015 Uniform Plumbing Code into the 2016 California Plumbing Code without amendment.

**CHAPTER 12
FUEL GAS PIPING**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

17. HCD proposes to NOT adopt Chapter 13 from the 2015 Uniform Plumbing Code.

**CHAPTER 13
HEALTH CARE FACILITIES AND MEDICAL GAS AND MEDICAL VACUUM SYSTEMS**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

18. HCD proposes to NOT adopt Chapter 14 from the 2015 Uniform Plumbing Code.

**CHAPTER 14
FIRESTOP PROTECTION**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

19. HCD proposes to adopt Chapter 15 from the 2015 Uniform Plumbing Code with new amendments and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code as follows:

**CHAPTER 15
ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS**

Intent

The provisions of this chapter are intended to:

1. *Conserve water by facilitating greater reuse of laundry, shower, lavatory and similar sources of discharge for irrigation and/or indoor use.*
2. *Reduce the number of non-compliant gray water systems by making legal compliance easily achievable.*
3. *Provide guidance for avoiding potentially unhealthful conditions.*
4. *Provide an alternative way to relieve stress on a private sewage disposal system by diverting the gray water.*

1501.1 (Formerly 1601.1) Applicability. (HCD 1) *Except as otherwise provided for in this chapter, the provisions of this code shall be applicable to alternate water source system installation. The provisions of this chapter shall apply to the construction, alteration, discharge, use and repair of alternate water source systems for nonpotable applications.*

1501.1.1 (Formerly 1601.1.1) Allowable Use of Alternate Water. *Where approved or required by the Authority Having Jurisdiction, alternate water sources [reclaimed (recycled) water, gray water and on-site treated nonpotable gray water] shall be permitted to be used in lieu of potable water for the applications identified in this chapter.*

~~**1501.2 System Design.** *Alternate water source systems shall be designed in accordance with this chapter by a registered design professional or who demonstrates competency to design the alternate water source system as required by the Authority Having Jurisdiction. Components, piping, and fittings used in an alternate water source system shall be listed.*~~

Exceptions:

- ~~(1) *A registered design professional is not required to design gray water systems having a maximum discharge capacity of 250 gallons per day (gal/d) (0.011 L/s) for single family and multi-family dwellings.*~~
- ~~(2) *A registered design professional is not required to design an on-site treated nonpotable water system for single family dwellings having a maximum discharge capacity of 250 gal/d (0.011 L/s).*~~

1501.2 System Design. (Formerly 1601.2 System Design.) (HCD 1) *Alternate water source systems complying with this chapter shall be designed by a person who demonstrates competency to design the alternate water source system as required by the Enforcing Agency. The Enforcing Agency may also require plans and specifications to be prepared by a licensed design professional for Complex Systems. Components, piping, and fittings used in any alternate water source system shall be listed.*

1501.3 (Formerly 1601.3) Permit. *It shall be unlawful for a person to construct, install, alter, or cause to be constructed, installed, or altered an alternate water source system in a building or on a premise without first obtaining a permit to do such work from the Authority Having Jurisdiction. Prior to commencing the issuance of permits for indoor gray water systems pursuant to state requirements relating to gray water, a city, county, city and county or other local agency shall seek consultation with the local public health department to ensure that local public health concerns are addressed in local standards or ordinances, or in issuing permits. See California Water Code Section 14877.3.*

Exception: (HCD 1) *A construction permit shall not be required for a clothes washer system meeting the requirements of Section ~~4602.4.4~~ 1502.1.1.*

1501.5 (Formerly 1601.5) Maintenance and Inspection. *Alternate water source systems and components shall be inspected and maintained in accordance with Section 1501.5.1 through Section 1501.5.3 the manufacturer's recommendations and/or as required by the Enforcing Agency.*

~~**1501.5.1 Frequency.** *Alternate water source systems and components shall be inspected and maintained in accordance with Table 1501.5 unless more frequent inspection and maintenance is required by the manufacturer.*~~

~~**1501.5.2 Maintenance Log.** *A maintenance log for gray water, rainwater, and on-site treated nonpotable water systems is required to have a permit in accordance with Section 1501.3 and shall be maintained by the property owner and be available for inspection. The property owner or designated appointee shall ensure that a record of testing, inspection and maintenance in accordance with Table 1501.5 is maintained in the log. The log will indicate the frequency of inspection and maintenance for each system.*~~

~~**1501.5.3 1501.5.1 (Formerly 1601.5.1) Maintenance Responsibility.** *The required maintenance and inspection of alternate water source systems shall be the responsibility of the property owner, unless otherwise required by the Authority Having Jurisdiction.*~~

1501.6 (Formerly 1601.6) Operation and Maintenance Manual. An operation and maintenance manual for gray water and on-site treated water systems required to have a permit in accordance with Section 1501.3 shall be supplied to the building owner by the system designer *or installer*. The operating and maintenance manual shall include the following:

- (1) ~~Detailed diagram~~ *Diagram(s)* of the entire system and the location of system components.
- (2) Instructions on operating and maintaining the system.
- (3) ~~Details-Instructions~~ on maintaining the required water quality as determined by the Authority Having Jurisdiction for on-site treated nonpotable water systems.
- (4) Details on *startup, shutdown, and* deactivating the system for maintenance, repair, or other purposes.
- (5) Applicable testing, inspection, and maintenance frequencies in accordance with ~~Table~~ *Section 1501.5*.
- (6) A method of contacting the *installer and/or* manufacturer(s).
- (7) *Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.*

1501.7 (Formerly 1601.7.2) Minimum Water Quality Requirements. (HCD 1) The minimum water quality for alternate water source systems shall meet the applicable water quality requirements for the intended application as determined by the Authority Having Jurisdiction. In the absence of water quality requirements, ~~the EPA/625/R-04/108 contains recommended water reuse guidelines to assist regulatory agencies develop, revise, or expand alternate water source water quality standards for on-site treated nonpotable gray water systems, the requirements of NSF 350 the following water quality requirements shall apply:~~

- ~~1) For owner-occupied single-family dwellings NSF/ANSI 350.~~
- ~~2) For R-1 and R-2 occupancies, the California Department of Public Health statewide uniform criteria for disinfected tertiary recycled water as provided in California Code of Regulations, Title 22, Section 60301.230.~~

Exception:

Water treatment is not required for gray water used in a disposal field or for subsurface or subsoil irrigation.

1501.10 (Formerly 1604.11.1) Commercial, Industrial, and Institutional, and Residential Restroom Signs. A sign shall be installed in restrooms in commercial, industrial, and institutional occupancies, and shall also be installed in residential common use area restrooms using reclaimed (recycled) water and on-site treated nonpotable gray water for water closets, urinals, or both. Each sign shall contain ~~1/2 of an inch (12.7 mm) letters of a highly visible color on a contrasting background. The location of the sign(s) shall be such that the sign(s) are visible to users. The location of the sign(s) shall be approved by the Authority Having Jurisdiction and shall contain the following text:~~

TO CONSERVE WATER, THIS BUILDING USES ON-SITE TREATED NONPOTABLE GRAY WATER TO FLUSH TOILETS AND URINALS.

**TABLE 1501.5
MINIMUM ALTERNATE WATER SOURCE TESTING, INSPECTION, AND MAINTENANCE FREQUENCY**

DESCRIPTION	MINIMUM FREQUENCY
Inspect and clean filters and screens, and replace (where necessary).	Every 3 months
Inspect and verify that disinfection, filters and water quality treatment devices and systems are operational and maintaining minimum water quality requirements as determined by the Authority Having Jurisdiction.	In accordance with manufacturer's instructions, and the Authority Having Jurisdiction.
Inspect pumps and verify operation.	After initial installation and every 12 months thereafter
Inspect valves and verify operation.	After initial installation and every 12 months thereafter
Inspect pressure tanks and verify operation.	After initial installation and every 12 months thereafter
Clear debris from and inspect storage tanks, locking devices, and verify operation.	After initial installation and every 12 months thereafter
Inspect caution labels and marking.	After initial installation and every 12 months thereafter.
Inspect and maintain mulch basins for gray water irrigation systems.	As needed to maintain mulch depth and prevent ponding and runoff.
Cross-connection inspection and test*	After initial installation and every 12 months thereafter.

*The cross-connection test shall be performed in the presence of the Authority Having Jurisdiction in accordance with the requirements of this chapter.

1501.10.1 (Formerly 1604.11.2) Equipment Room Signs. Each room containing reclaimed (recycled) and on-site treated gray water equipment shall have a sign posted in a location that is visible to anyone working on or near nonpotable gray water equipment with the following wording in 1 inch (25.4 mm) letters:

CAUTION: NONPOTABLE * _____ *, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.

* _____ * Shall indicate RECLAIMED (RECYCLED) WATER or ON-SITE TREATED GRAY WATER, accordingly.

1501.11.2 (Formerly 1604.12.2) Annual Cross-Connection Inspection and Testing. An initial and subsequent annual inspection and test shall be performed on both the potable and gray alternate water source systems. The potable and gray alternate water source system shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection in accordance with Section 1501.11.2.1 through Section 1501.11.2.4.

1502.0 Gray Water Systems.

1502.1 (Formerly 1602.1) General. The provisions of this section shall apply to the construction, alteration, and repair of gray water systems. *A city, county, or city and county or other local government may adopt, after a public hearing and enactment of an ordinance or resolution, building standards that are more restrictive than the gray water building standards adopted in this code. For additional information, see Health and Safety Code Section 18941.7.*

- (A) All gray water systems shall be designed with a diverter valve to allow the user to direct the flow to the building sewer and either the irrigation field or disposal field, whichever is used. The means of changing the direction of the gray water shall be clearly labeled and readily accessible to the user.
- (B) Water used to wash diapers or similarly soiled or infectious garments or other prohibited contents shall be diverted by the user to the building sewer.
- (C) Gray water shall not be used in spray irrigation, allowed to pond or runoff and shall not be discharged directly into or reach any storm sewer system or any surface body of water.
- (D) Human contact with gray water or the soil irrigated by gray water shall be minimized and avoided, except as required to maintain the gray water system. The discharge point of any gray water subsoil irrigation or subsurface irrigation field shall be covered by at least (2) inches (51 mm) of mulch, rock, or soil, or a solid shield to minimize the possibility of human contact.

- (E) Gray water may be released above the ground surface provided at least two (2) inches (51 mm) of mulch, rock, or soil, or a solid shield covers the release point. Other methods which provide equivalent separation are also acceptable.
- (F) Gray water shall not contain hazardous chemicals derived from activities such as cleaning car parts, washing greasy or oily rags, or disposing of waste solutions.
 - (1) (HCD 1) The prohibition in Subsection (F) includes, but is not limited to, home photo labs or other similar hobbyist or home occupational activities.
- (G) Exemption from construction permit requirements of this code shall not be deemed to grant authorization for any gray water system to be installed in a manner that violates other provisions of this code or any other laws or ordinances of the Enforcing Agency.
- (H) An operation and maintenance manual shall be provided to the owner. Directions shall indicate that the manual is to remain with the building throughout the life of the system and upon change of ownership or occupancy.
- (I) A gray water system shall not be connected to any potable water system without an air gap, reduced-pressure principle backflow preventer, or other physical device which prevents backflow and shall not cause ponding or runoff of gray water.

1502.1.1 (Formerly 1602.1.1) (HCD 1) Clothes Washer System. A clothes washer system in compliance with all of the following is exempt from the construction permit specified in Section 1.8.4.1 and may be installed or altered without a construction permit:

1. If required, notification has been provided to the enforcing agency regarding the proposed location and installation of a gray water irrigation or disposal system.
2. The design shall allow the user to direct the flow to the irrigation or disposal field or the building sewer. The direction control of the gray water shall be clearly labeled and readily accessible to the user.
3. The installation, change, alteration, or repair of the system does not include a potable water connection or a pump and does not affect other building, plumbing, electrical, or mechanical components including structural features, egress, fire-life safety, sanitation, potable water supply piping, or accessibility.
 - Note:** The pump in a clothes washer shall not be considered part of the gray water system.
4. The gray water shall be contained on the site where it is generated.
5. Gray water shall be directed to and contained within an irrigation or disposal field.
6. Ponding or runoff is prohibited and shall be considered a nuisance.
7. Gray water may be released above the ground surface provided at least two (2) inches (51 mm) of mulch, rock, or soil, or a solid shield covers the release point. Other methods which provide equivalent separation are also acceptable.
8. Gray water systems shall be designed to minimize contact with humans and domestic pets.
9. Water used to wash diapers or similarly soiled or infectious garments shall not be used and shall be diverted to the building sewer.
10. Gray water shall not contain hazardous chemicals derived from activities such as cleaning car parts, washing greasy or oily rags, or disposing of waste solutions from home photo labs or similar hobbyist or home occupational activities.
11. Exemption from construction permit requirements of this code shall not be deemed to grant authorization for any gray water system to be installed in a manner that violates other provisions of this code or any other laws or ordinances of the enforcing agency.
12. An operation and maintenance manual shall be provided to the owner. Directions shall indicate that the manual is to remain with the building throughout the life of the system and upon change of ownership or occupancy.
13. Gray water discharge from a clothes washer system through a standpipe shall be properly trapped in accordance with Section 1005.0.

1502.1.2 (Formerly 1602.1.2) Simple System. Simple systems exceed a clothes washer system and shall comply with the following:

1. The discharge capacity of a gray water system shall be determined by Section ~~1602.8~~ **1502.8**. Simple systems have a discharge capacity of 250 gallons (947 L) per day or less.
2. Simple systems shall require a construction permit unless exempted from a construction permit by the Enforcing Agency. The Enforcing Agency shall consult with the water purveyor for any public water system (as defined in Health and Safety Code Section 116275) providing drinking water to the dwelling before allowing an exemption from a construction permit.
3. The design of simple systems shall meet generally accepted gray water system design criteria.

1502.1.3 (Formerly 1602.1.3) Complex System. Any gray water system that is not a clothes washer system or simple system shall comply with the following:

1. The discharge capacity of a gray water system shall be determined by Section ~~1602.8~~ **1502.8**. Complex systems have a discharge capacity over 250 gallons (947 L) per day.
2. Complex systems shall require a construction permit unless exempted from a construction permit by the Enforcing Agency. The Enforcing Agency shall consult with the water purveyor for any public water system (as defined in Health and Safety Code Section 116275) providing drinking water to the dwelling before allowing an exemption from a construction permit.

1502.2 (Formerly 1602.2.1 Discharge) System Requirements. Gray water shall be permitted to be diverted away from a sewer or private sewage disposal system, and discharge to a subsurface irrigation or subsoil irrigation system, or disposal field. The gray water shall be permitted to discharge to a mulch basin for ~~single-family and multi-family dwellings residential occupancies~~. Gray water shall not be used to irrigate root crops or food crops intended for human consumption that come in contact with soil.

1502.2.1 (Formerly 1602.2.2) Surge Capacity. Gray water systems shall be designed to have the capacity to accommodate peak flow rates and distribute the total amount of estimated gray water on a daily basis to a subsurface irrigation field, subsoil irrigation field, *disposal field*, or mulch basin without surfacing, ponding, or runoff. A surge tank is required for systems that are unable to accommodate peak flow rates and distribute the total amount of gray water by gravity drainage. The water discharge for gray water systems shall be determined in accordance with Section ~~1502.8.1 or Section 1502.8.2~~ **1502.8.1**.

Exception: It is not the intent of this section to require that all gray water must be handled by an irrigation field or disposal field. It is acceptable for excess gray water to be diverted to the building sewer through a diverter valve or overflow drain as permitted in this chapter.

1502.2.2 (Formerly 1602.2.3) Diversion. The gray water system shall connect to the sanitary drainage system downstream of fixture traps and vent connections through an approved gray-water diverter valve. The gray-water diverter valve shall be installed in a readily accessible location and clearly indicate the direction of flow.

*Exception: (HCD 1) A clothes washer system in compliance with ~~1602.1.4~~ **1502.1.1**.*

1502.2.3 (Formerly 1602.2.4) Backwater Valves. Gray water drains subject to backflow shall be provided with a backwater valve at the point of connection to the building sewer system, so located as to be accessible for inspection and maintenance.

1502.3 (Formerly 1602.3) Connections to Potable and Reclaimed (Recycled) Water Systems. Gray water systems shall have no direct unprotected connection to a potable water supply, on-site treated nonpotable water supply, or reclaimed (recycled) water systems. Potable, on-site treated nonpotable, or reclaimed (recycled) water, or rainwater is permitted to be used as makeup water for a non-pressurized storage tank provided the connection is protected by an airgap, reduced-pressure principle backflow preventer, or other physical device which prevents backflow in accordance with this code.

1502.4 (Formerly 1602.4) Location. No gray water system or part thereof shall be located on a lot other than the lot that is the site of the building or structure that discharges the gray water, nor shall a gray water system or part thereof be located at a point having less than the minimum distances indicated in Table 1502.4.

Exception: When there exists a lawfully recorded perpetual and exclusive covenant to an easement appurtenant and right-of-way between adjoining land-owners of two or more contiguous lots to discharge gray water from one lot to an adjoining lot.

**TABLE 1502.4 (Formerly 1602.4)
LOCATION OF GRAY WATER SYSTEM⁷**

MINIMUM HORIZONTAL DISTANCE IN CLEAR REQUIRED FROM	SURGE TANK (feet)	SUBSURFACE AND SUBSOIL IRRIGATION FIELD AND MULCH BED BASIN (feet)	DISPOSAL FIELD
Building structures ¹	5 ^{2,3,9}	2 ^{3,8}	5
Property line adjoining private property	5	5 ⁸	5
Water supply wells ⁴	50	100	100
Streams and lakes ⁴	50	50 100 ^{5,10}	100 ⁵
Sewage pits or cesspools	5	5	5
Sewage disposal field ¹⁰	5	4 ⁶	4 ⁶
Septic tank	0	5	5
On-site domestic water service line	5	5 0	0
Pressurized public water main ⁷	10	10	10 ⁷

For SI units: 1 foot = 304.8 mm

Notes:

- ¹ ~~Including~~ Building structures do not include porches and steps, whether covered or uncovered, breezeways, roofed carports, *roofed porte cocheres*, roofed patios, carports, covered walks, covered driveways, and similar structures or appurtenances.
- ² The distance shall be permitted to be reduced to 0 feet for aboveground tanks where first approved by the Authority Having Jurisdiction.
- ³ ~~Reference to a 45 degree (0.79 rad) angle from foundation. Underground tanks shall not be located within a 45 degree angle from the bottom of the foundation, or they shall be designed to address the surcharge imposed by the structure. The distance may be reduced to six (6) inches (153 mm) for aboveground tanks when first approved by the Enforcing Agency.~~
- ⁴ Where special hazards are involved, the distance required shall be increased as directed by the Authority Having Jurisdiction.
- ⁵ These minimum clear horizontal distances shall apply between the irrigation or disposal field and the ocean mean higher high tide line.
- ⁶ Add 2 feet (610 mm) for each additional foot of depth in excess of 1 foot (305 mm) below the bottom of the drain line.
- ⁷ For parallel construction or for crossings, approval by the Authority Having Jurisdiction shall be required.
- ⁸ The distance shall be permitted to be reduced to 1 1/2 feet (457 mm) for drip and mulch basin irrigation systems.
- ⁹ The distance shall be permitted to be reduced to 0 feet for surge tanks of 75 gallons (284 L) or less.
- ¹⁰ ~~Where irrigation or disposal fields are installed in sloping ground, the minimum horizontal distance between a part of the distribution system and the ground surface shall be 15 feet (4572 mm).~~
- ¹⁰ The minimum horizontal distance may be reduced to 50 feet (15,240 mm) for irrigation or disposal fields utilizing gray water which has been filtered prior to entering the distribution piping.

1502.5 (Formerly 1602.5) Plot Plan Submission. No permit for a gray water system shall be issued until a plot plan with data satisfactory to the Authority Having Jurisdiction has been submitted and approved.

Exception (HCD 1): A construction permit shall not be required for a clothes washer system in compliance with Section 1602.1.1 1502.1.1.

1502.6 (Formerly 1602.6) Prohibited Location. ~~Where there is insufficient lot area or inappropriate soil conditions for adequate absorption to prevent the ponding, surfacing, or runoff of the gray water, as determined by the Authority Having Jurisdiction, no gray water system shall be permitted. A gray water system is not permitted on a property in a geologically sensitive area as determined by the Authority Having Jurisdiction.~~

1502.7 (Formerly 1602.7) Drawings and Specifications. The Authority Having Jurisdiction ~~shall~~ may require the following information to be included with or in the plot plan before a permit is issued for a gray water system, or at a time during the construction thereof:

- (1) Plot plan drawn to scale and completely dimensioned, showing lot lines and structures, direction and approximate slope of surface, location of present or proposed retaining walls, drainage channels, water supply lines, wells, paved areas and structures on the plot, number of bedrooms and plumbing fixtures in each structure, location of private sewage disposal system and expansion area or building sewer connecting to the public sewer, and location of the proposed gray water system.

- (2) Details of construction necessary to ensure compliance with the requirements of this chapter, together with a full description of the complete installation, including installation methods, construction, and materials in accordance with the Authority Having Jurisdiction.
- (3) Details for holding tanks shall include dimensions, structural calculations, bracings, and such other pertinent data as required.
- (4) A log of soil formations and groundwater level as determined by test holes dug in proximity to the proposed irrigation *and/or disposal* area, together with a statement of water absorption characteristics of the soil at the proposed site as determined by approved percolation tests.

Exceptions:

- (1) The Authority Having Jurisdiction shall permit the use of Table 1502.10 in lieu of percolation tests.
- (2) *The Enforcing Agency may waive the requirement for identification of groundwater level and/or soil absorption qualities based on knowledge of local conditions.*
- (3) *The absence of groundwater in a test hole three (3) vertical feet (915 mm) below the deepest irrigation or disposal point shall be sufficient to satisfy this section unless seasonal high groundwater levels have been documented to rise to within this area.*
- (5) Distance between the plot and surface waters such as lakes, ponds, rivers or streams, and the slope between the plot and the surface water, where in close proximity.

1502.8 (Formerly 1602.8) Procedure for Estimating Gray Water Discharge. Gray water systems shall be designed to distribute the total amount of estimated gray water on a daily basis. The water discharge for gray water systems shall be determined in accordance with Section 1502.8.1 or Section 1502.8.2.

Exception: It is not the intent of this section to require that all gray water must be handled by an irrigation field or disposal field. It is acceptable for excess gray water to be diverted to the building sewer through a diverter valve or overflow drain as permitted in this chapter.

1502.8.1 (Formerly 1602.8.1) Single-Family Dwellings and Multi-Family Dwellings- Residential Occupancies. The gray water discharge for single family and multi family dwellings residential occupancies shall be calculated by water use records, calculations of local daily per person interior water use, or the following procedure:

- (1) The number of occupants of each dwelling unit shall be calculated as follows:

First Bedroom	2 occupants
Each additional bedroom	1 occupant
- (2) The estimated gray water flows of each occupant shall be calculated as follows:

Showers, bathtubs and lavatories	25 gallons (95 L) per day/occupant
Laundry	15 gallons (57 L) per day/occupant
- (3) The total number of occupants shall be multiplied by the applicable estimated gray water discharge as provided above and the type of fixtures connected to the gray water system.

1502.8.3 (Formerly 1602.8.3) Daily Discharge. Gray water systems using tanks shall be designed to minimize the amount of time gray water is held in the tank and shall be sized to distribute the total amount of estimated gray water on a daily basis.

Exception: Approved on-site treated nonpotable gray water systems.

1502.9 (Formerly 1602.9) Gray Water System Components. Gray water system components shall comply with Section 1502.9.1 through Section 1502.9.7.

(HCD 1) Gray water system components shall comply with this chapter.

1502.9.1 (Formerly 1602.9.1) Surge Tanks. Where installed, surge tanks shall be in accordance with the following:

- (1) Surge tanks shall be constructed of solid, durable materials not subject to excessive corrosion or decay and shall be watertight. *Above ground surge tanks shall be protected from direct sunlight or shall be constructed of UV resistant materials including but not limited to heavily tinted or opaque plastic, fiberglass,*

lined metal, concrete and wood. Surge tanks constructed of steel shall be approved by the Authority Having Jurisdiction, provided such tanks are in accordance with approved applicable standards.

- (2) Each surge tank shall be vented in accordance with this code. The vent size shall be determined based on the total gray water fixture units as outlined in this code.
- (3) Each surge tank shall have an access opening with lockable gasketed covers or approved equivalent to allow for inspection and cleaning.
- (4) Each surge tank shall have its rated capacity permanently marked on the unit. In addition, a sign stating ~~GRAY WATER, DANGER UNSAFE WATER~~ *GRAY WATER SYSTEM, CAUTION – UNSAFE WATER* shall be permanently marked on the holding tank.
- (5) Each surge tank shall have an overflow drain. The overflow drains shall have permanent connections to the building drain or building sewer, upstream of septic tanks. The overflow drain shall not be equipped with a shutoff valve.
- (6) The overflow drainpipes shall not be less in size than the inlet pipe. Unions or equally effective fittings shall be provided for piping connected to the surge tank.
- (7) Surge tank shall be structurally designed to withstand anticipated earth or other loads. Surge tank covers shall be capable of supporting an earth load of not less than 300 pounds per square foot (lb/ft²) (1465 kg/m²) where the tank is designed for underground installation.
- (8) Where a surge tank is installed underground, the overflow system shall be designed so that the tank overflow will gravity drain to the existing sewer line or septic tank. The tank shall be protected against sewer line backflow by a backwater valve installed in accordance with this code.
- (9) Surge tanks shall be installed on dry, level, well-compacted soil where underground or on a level 3 inch (76 mm) thick concrete slab or *other approved method* where aboveground.
- (10) Surge tanks shall be anchored to prevent against overturning where installed aboveground. Underground tanks shall be ballasted, anchored, or otherwise secured, to prevent the tank from floating out of the ground where empty. The combined weight of the tank and hold down system shall meet or exceed the buoyancy forces of the tank.
- (11) **(HCD 1)** *An overflow drain and backwater valve is not required on a clothes washer system.*

1502.9.2.1 (Formerly **1602.9.3**) ***Animals and Insects.*** *Gray water tank openings shall be protected to prevent the entrance of insects, birds, or rodents into the tank and piping systems. Screens installed on vent pipes, inlets, and overflow pipes shall have an aperture of not greater than 1/16 of an inch (1.6 mm) and shall be close fitting.*

1502.9.2.2 (Formerly **1602.9.4**) ***Freeze Protection.*** *Tanks and piping installed in locations subject to freezing shall be provided with an approved means of freeze protection.*

1502.9.3 ***Subsoil Irrigation Field Materials.*** ~~Subsoil irrigation field and disposal field piping shall be constructed of 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 gray water into the trench area. Material, construction, and perforation of the pipe shall be in accordance with the appropriate absorption field drainage piping standards and shall be approved by the Authority Having Jurisdiction.~~

1502.9.4 ***Subsurface Irrigation Field and Mulch Basin Supply Line Materials.*** ~~Materials for gray water piping outside the building shall be polyethylene or PVC. Drip feeder lines shall be PVC or polyethylene tubing.~~

1502.9.5 ***Valves.*** ~~Valves shall be accessible.~~

1502.9.6 ***Trap.*** ~~Gray water piping discharging into the surge tank or having a direct connection to the sanitary drain or sewer piping shall be downstream of an approved water seal type trap(s). Where no such trap(s) exists, an approved vented running trap shall be installed upstream of the connection to protect the building from possible waste or sewer gases.~~

1502.9.7 ***Backwater Valve.*** ~~A backwater valve shall be installed on gray water drain connections to the sanitary drain or sewer.~~

**TABLE 1502.10 (Formerly 1602.10)
DESIGN OF SIX TYPICAL SOILS**

TYPE OF SOIL	MINIMUM SQUARE FEET OF IRRIGATION/LEACHING AREA PER 100 GALLONS OF ESTIMATED GRAY WATER DISCHARGE PER DAY	MAXIMUM ABSORPTION CAPACITY IN GALLONS PER SQUARE FOOT OF IRRIGATION/LEACHING AREA FOR A 24-HOUR PERIOD
Coarse sand or gravel	20	5.0
Fine sand	25	4.0
Sandy loam	40	2.5
Sandy clay	60	1.7
Clay with considerable sand or gravel	90	1.1
Clay with small amounts of sand or gravel	120	0.8

For SI units: 1 square foot = 0.0929 m², 1 gallon per day = 0.000043 L/s

1502.10.2 (Formerly 1602.10.2) Determination of Maximum Absorption Capacity. The irrigation field and mulch basin size shall be based on the maximum absorption capacity of the soil and determined using Table 1502.10. For soils not listed in Table 1502.10, the maximum absorption capacity for the proposed site shall be determined by percolation tests or other method acceptable to the Authority Having Jurisdiction. A gray water system shall not be permitted, where the percolation test shows the absorption capacity of the soil is unable to accommodate the maximum discharge of the proposed gray water irrigation system.

Exceptions:

- (1) *The Enforcing Agency may waive the requirement for identification of groundwater level and/or soil absorption qualities based on knowledge of local conditions.*
- (2) *Irrigation fields in compliance with Section 4602.11.2 1502.11.2 which only utilize drip type emitters are exempt from percolation tests.*

1502.10.3 (Formerly 1602.10.3) Groundwater Level. No excavation for an irrigation field, disposal field, or mulch basin shall extend within 3 feet (914 mm) vertical of the highest known seasonal groundwater level nor to a depth where gray water contaminates the groundwater or surface water. The applicant shall supply evidence of groundwater depth to the satisfaction of the Authority Having Jurisdiction.

Note: *The absence of groundwater in a test hole three (3) vertical feet (915 mm) below the deepest irrigation or disposal point shall be sufficient to satisfy this section unless seasonal high groundwater levels have been documented to rise to within this area.*

1502.11 Subsurface and Subsoil Irrigation Field, and Mulch Basin Design and Construction.

Subsurface and subsoil irrigation field, and mulch basin design and construction shall be in accordance with Section 1502.11.1 through Section 1502.11.3. Where a gray water irrigation system design is predicated on soil tests, the subsurface or subsoil irrigation field or mulch basin shall be installed at the same location and depth as the tested area.

1502.11.1 Subsurface Irrigation Field. A subsurface irrigation field shall comply with Section 1502.11.1.1 through Section 1502.11.1.6.

1502.11.1.1 Minimum Depth. Supply piping, including drip feeders, shall be not less than 2 inches (51 mm) below finished grade and covered with mulch or soil.

1502.11.1.2 Filter. Not less than 140 mesh (105 micron) filter with a capacity of 25 gallons per minute (gpm) (1.58 L/s), or equivalent shall be installed. Where a filter backwash is installed, the backwash and flush discharge shall discharge into the building sewer or private sewage disposal. Filter backwash and flush water shall not be used.

1502.11.1.3 Emitter Size. Emitters shall be installed in accordance with the manufacturer's installation instructions. Emitters shall have a flow path of not less than 1200 microns (μ) (1200 μm) and shall not have a coefficient of manufacturing variation (Cv) exceeding 7 percent. Irrigation system design shall be such that emitter flow variation shall not exceed 10 percent.

1502.11.1.4 Number of Emitters. The minimum number of emitters and the maximum discharge of each emitter in an irrigation field shall be in accordance with Table 1502.11.

1502.11.1.5 Controls. The system design shall provide user controls, such as valves, switches, timers, and other controllers, to rotate the distribution of gray water between irrigation zones.

1502.11.1.6 Maximum Pressure. Where pressure at the discharge side of the pump exceeds 20 pounds-force per square inch (psi) (138 kPa), a pressure-reducing valve able to maintain downstream pressure not exceeding 20 psi (138 kPa) shall be installed downstream from the pump and before an emission device.

1502.11.2 Mulch Basin. A mulch basin shall comply with Section 1502.11.2.1 through Section 1502.11.2.4.

1502.11.2.1 Single Family and Multi-Family Dwellings. The gray water discharge to a mulch basin is limited to single family and multi-family dwellings.

1502.11.2.2 Size. Mulch basins shall be of sufficient size to accommodate peak flow rates and distribute the total amount of estimated gray water on a daily basis without surfacing, ponding or runoff. Mulch basins shall have a depth of not less than 10 inches (254 mm) below finished grade. The mulch basin size shall be based on the maximum absorption capacity of the soil and determined using Table 1602.10.

1502.11.2.3 Minimum Depth. Gray water supply piping, including drip feeders, shall be not less than 2 inches (51 mm) below finished grade and covered with mulch.

1502.11.2.4 Maintenance. The mulch basin shall be maintained periodically to retain the required depth and area, and to replenish the required mulch cover.

1502.11.3 Subsoil Irrigation Field. Subsoil irrigation fields shall comply with Section 1502.11.3.1 through Section 1502.11.3.3.

1502.11.3.1 Minimum Pipe Size. Subsoil irrigation field distribution piping shall be not less than 3 inches (80 mm) diameter.

1502.11.3.2 Filter Material and Backfill. Filter material, clean stone, gravel, slag, or similar material acceptable to the Authority Having Jurisdiction, varying in size from 3/4 of an inch (19.1 mm) to 2 1/2 inches (64 mm) shall be placed in the trench to the depth and grade in accordance with Table 1502.11.3. The perforated section of subsoil irrigation field distribution piping shall be laid on the filter material in an approved manner. The perforated section shall then be covered with filter material to the minimum depth in accordance with Table 1502.11.3. The filter material shall then be covered with 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.

1502.11.3.3 Subsoil Irrigation Field Construction. Subsoil irrigation fields shall be constructed in accordance with Table 1502.11.3. Where necessary on sloping ground to prevent excessive line slopes, irrigation lines shall be stepped. The lines between each horizontal leaching section shall be made with approved watertight joints and installed on natural or unfilled ground.

1502.11 (Formerly 1602.11) Irrigation, Disposal Field and Mulch Basin Construction.

Irrigation fields, disposal fields and mulch basins used in gray water systems shall comply with this section. Gray water systems may contain either an irrigation field or a disposal field or a combination of both. This section is not intended to prevent the use of other methods of gray water irrigation or disposal approved by the Enforcing Agency.

1502.11.1 (Formerly 1602.11.1) Mulch Basin. *A mulch basin may be used as an irrigation or disposal field. Mulch basins shall be sized in accordance with Table 1602.10 1502.10 and of sufficient depth, length and width to prevent ponding or runoff during the gray water surge of a clothes washer, bathtub or shower. Mulch must be replenished as required due to decomposition of organic matter. Mulch basins will require periodic maintenance, reshaping or removal of dirt to maintain surge capacity and to accommodate plant growth and prevent ponding or runoff.*

1502.11.2 (Formerly 1602.11.2) Irrigation Field. *The provisions of this section are not intended to prevent the use of any appropriate material, appliance, installation, device, design or method of construction. If an alternate*

design is not available, the following provisions may be used as guidance in the design of a gray water irrigation field:

- (1) Filters used in gray water irrigation systems shall be as specified by the manufacturer's installation instructions for the design flow rate and intended use. The filter backwash and flush discharge shall be contained and disposed of into the building sewer system, septic tank or, with approval of the Enforcing Agency, a separate mini-leachfield sized to accept all the backwash and flush discharge water. Filter backwash water and flush water shall not be used for any purpose. Sanitary procedures shall be followed when handling filter backwash and flush discharge or gray water.
- (2) Emitters shall be designed to resist root intrusion and shall be of a design recommended by the manufacturer for the intended gray water flow and use. For emitter ratings, refer to Irrigation Equipment Performance Report, Drip Emitters and Micro-Sprinklers, Center for Irrigation Technology, California State University, 5730 N. Chestnut Avenue, Fresno, California 93740-0018
- (3) Each irrigation zone shall be designed to include no less than the number of emitters specified in Table 1602.11 1502.11 or through a procedure designated by the Enforcing Agency. Minimum spacing between emitters in any direction shall be sufficient to prevent surfacing or runoff.
- (4) The system design shall provide user controls, such as valves, switches, timers and other controllers, as appropriate, to rotate the distribution of gray water between irrigation zones.
- (5) All drip irrigation supply lines shall be polyethylene tubing or PVC Class 200 pipe or better and Schedule 40 fittings. All joints shall be pressure tested at 40 psi (276 kPa), and shown to be drip tight for five minutes, before burial. All supply piping shall be covered to a minimum depth of two (2) inches (51 mm) of mulch or soil. Drip feeder lines can be poly or flexible PVC tubing and shall be covered to a minimum depth of two (2) inches (51 mm) of mulch or soil.
- (6) Where pressure at the discharge side of the pump exceeds 20 psi (138 kPa), a pressure-reducing valve able to maintain downstream pressure no greater than the maximum operating pressure of the installed tubing, emitters, or other components shall be installed downstream from the pump and before any emission device.
- (7) When an irrigation system utilizes a pump, and discharges water at a point higher than the pump, a backwater valve shall be installed downstream of the pump to prevent back siphonage of water and soil.

**TABLE 1502.11 (Formerly 1602.11)
SUBSURFACE IRRIGATION DESIGN
CRITERIA FOR SIX TYPICAL SOILS**

TYPE OF SOIL	MAXIMUM EMITTER DISCHARGE (gallons per day)	MINIMUM NUMBER OF EMITTERS PER GALLON OF ESTIMATED GRAY WATER DISCHARGE PER DAY* (gallons per day)
Sand	1.8	0.6
Sandy loam	1.4	0.7
Loam	1.2	0.9
Clay loam	0.9	1.1
Silty clay	0.6	1.6
Clay	0.5	2.0

For SI units: 1 gallon per day = 0.000043 L/s

*The estimated gray water discharge per day shall be determined in accordance with Section 1502.8 of this code.

1502.11.3 (Formerly 1602.11.3) Disposal Field. The provisions of this section are not intended to prevent the use of any appropriate material, appliance, installation, device, design or method of construction. If an alternate design is not available the following provisions may be used as guidance in the design of a gray water disposal field:

- (A) Disposal systems shall be not less than three (3) inches (80 mm) in cross sectional dimension and shall be constructed of perforated high-density polyethylene pipe, perforated ABS pipe, perforated PVC pipe, leaching chambers or other approved materials, provided that sufficient openings are available for distribution of the gray water into the trench area. Material, construction, and perforation shall be in

compliance with the appropriate absorption fields drainage standards and shall be approved by the Enforcing Agency.

- (B) Filter material, clean stone, gravel, slag, or similar filter material acceptable to the Enforcing Agency, varying in size from three-quarter (3/4) inch (19.1 mm) to two and one-half (2-1/2) inches (64 mm) shall be placed in the trench to the depth and grade required by this section. The perforated section shall be laid on the filter material in an approved manner. The perforated section shall then be covered with filter material to the minimum depth required by this section. The filter material shall then be 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: Manufactured leaching chambers shall be installed in compliance with the manufacturer's installation instructions.

- (C) Disposal fields shall be constructed in accordance with Table 1602.11.3 1502.11.3

- (D) When necessary on sloping ground to prevent excessive line slopes, disposal lines shall be stepped or installed on the contour lines of the slope. The lines between each horizontal leaching section shall be made with approved water-tight joints and installed on natural or unfilled ground.

**TABLE 1502.11.3 (Formerly 1602.11.3)
SUBSOIL IRRIGATION FIELD CONSTRUCTION**

DESCRIPTION	MINIMUM	MAXIMUM
Number of drain lines per valved zone ¹	1	-
Length of each perforated line ¹	-	100 feet
Bottom width of trench ¹	12 inches	24 inches
Spacing of lines, center to center ¹	4 feet	-
Depth of earth cover of lines	10 inches	-
Depth of filter material cover of lines	2 inches	-
Depth of filter material beneath lines ¹	3 inches	-
Grade of perforated lines level	level	3 inches per 100 feet

For SI units: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 inch per foot = 83.3 mm/m

¹ Manufactured leaching chambers shall be installed in compliance with the manufacturer's installation instructions.

1502.12 (Formerly 1602.12) Gray Water System Color and Marking Information. Pressurized gray water distribution systems shall be identified as containing nonpotable water in accordance with Section 601.3 of this code. Marking shall be at intervals not to exceed 5 feet (1524 mm). Gray water distribution piping upstream of any connection to an irrigation or disposal field or a distribution valve shall be identified with the words "CAUTION: NONPOTABLE GRAY WATER, DO NOT DRINK".

1502.13 (Formerly 1602.13.1). Other Collection and Distribution Systems. Other collection and distribution systems shall be approved by the local Authority Having Jurisdiction, as allowed by Section 301.3 of this code.

1502.13.1 Higher Requirements. Nothing contained in this chapter shall be construed to prevent the Authority Having Jurisdiction from requiring compliance with higher requirements than those contained herein, where such higher requirements are essential to maintain a safe and sanitary condition.

1502.13.1 (Formerly 1602.13.2) Future Connections. Gray water stub-out plumbing may be allowed for future connection prior to the installation of irrigation lines and landscaping. Stub-out shall be permanently marked "CAUTION: NONPOTABLE GRAY WATER, DO NOT DRINK".

1502.15 (Formerly 1602.15) Maintenance. Gray water systems and components shall be maintained in accordance with Table Section 1501.5.

1503.0 Reclaimed (Recycled) Water Systems Reserved.

1503.1 General. The provisions of this section shall apply to the installation, construction, alteration, and repair of reclaimed (recycled) water systems intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, aboveground and subsurface irrigation, industrial or commercial cooling or air conditioning and other uses approved by the Authority Having Jurisdiction.

1503.2 Permit. It shall be unlawful for a person to construct, install, alter, or cause to be constructed, installed, or altered a reclaimed (recycled) water system within a building or on a premises without first obtaining a permit to do such work from the Authority Having Jurisdiction.

1503.2.1 Plumbing Plan Submission. No permit for a reclaimed (recycled) water system shall be issued until complete plumbing plans, with data satisfactory to the Authority Having Jurisdiction, have been submitted and approved.

1503.3 System Changes. No changes or connections shall be made to either the reclaimed (recycled) water system or the potable water system within a site containing a reclaimed (recycled) water system without approval by the Authority Having Jurisdiction.

1503.4 Connections to Potable or Reclaimed (Recycled) Water Systems. Reclaimed (recycled) water systems shall have no connection to a potable water supply or alternate water source system. Potable water is permitted to be used as makeup water for a reclaimed (recycled) water storage tank provided the water supply inlet is protected by an airgap or reduced-pressure principle backflow preventer in accordance with this code.

1503.5 Initial Cross-Connection Test. A cross-connection test is required in accordance with Section 1501.11.2. Before the building is occupied or the system is activated, the installer shall perform the initial cross-connection test in the presence of the Authority Having Jurisdiction and other authorities having jurisdiction. The test shall be ruled successful by the Authority Having Jurisdiction before final approval is granted.

1503.6 Reclaimed (Recycled) Water System Materials. Reclaimed (recycled) water supply and distribution system materials shall comply with the requirements of this code for potable water supply and distribution systems, unless otherwise provided for in this section.

1503.7 Reclaimed (Recycled) Water System Color and Marking Information. Reclaimed (recycled) water systems shall have a colored background and marking information in accordance with Section 601.3 of this code.

1503.8 Valves. Valves, except fixture supply control valves, shall be equipped with a locking feature.

1503.9 Hose Bibbs. Hose bibbs shall not be allowed on reclaimed (recycled) water piping systems located in areas accessible to the public. Access to reclaimed (recycled) water at points in the system accessible to the public shall be through a quick disconnect device that differs from those installed on the potable water system. Hose bibbs supplying reclaimed (recycled) water shall be marked with the words: "CAUTION: NONPOTABLE RECLAIMED WATER, DO NOT DRINK," and the symbol in Figure 1503.9



FIGURE 1503.9

1503.10 Required Appurtenances. The reclaimed (recycled) water system and the potable water system within the building shall be provided with the required appurtenances (e.g., valves, air/vacuum relief valves, etc.) to allow for deactivation or drainage as required for a cross-connection test in accordance with Section 1501.11.2.

1503.11 Same Trench as Potable Water Pipes. Reclaimed (recycled) water pipes shall be permitted to be run or laid in the same trench as potable water pipes with a 12 inches (305 mm) minimum vertical and horizontal separation where both pipe materials are approved for use within a building. Where piping materials do not meet this requirement the minimum horizontal separation shall be increased to 60 inches (1524 mm). The potable water piping shall be installed at an elevation above the reclaimed (recycled) water piping. Reclaimed (Recycled) water pipes laid in the same trench or crossing building sewer or drainage piping shall be installed in accordance with this code for potable water piping.

~~1503.12 Signs.~~ Rooms and water closet tanks in buildings using reclaimed (recycled) water shall be in accordance with Section 1501.10 and Section 1501.10.1.

~~1503.13 Inspection and Testing.~~ Reclaimed (recycled) water systems shall be inspected and testing in accordance with Section 1501.11.

1504.0 (Formerly 1604.0) On-Site Treated Nonpotable Gray Water Systems.

1504.1 (Formerly 1604.1) General. The provisions of this section shall apply to the installation, construction, alteration, and repair of on-site treated nonpotable *gray* water systems intended to supply uses such as water closets, urinals, trap primers for floor drains and floor sinks, above and belowground irrigation, and other uses approved by the Authority Having Jurisdiction.

Other approved nonpotable water sources, including swimming pool backwash operations, air conditioner condensate, rainwater, cooling tower blow-down water, foundation drainage, steam system condensate, fluid cooler discharge water, food steamer discharge water, combination oven discharge water, industrial process water, and fire pump test water may be permitted to be collected for re-use by gray water systems, as approved for the intended application.

1504.2 (Formerly 1604.2) Plumbing Plan Submission. No permit for an on-site treated nonpotable *gray* water system shall be issued until complete plumbing plans, with data satisfactory to the Authority Having Jurisdiction, have been submitted and approved.

1504.3 (Formerly 1604.3) System Changes. No changes or connections shall be made to either the on-site treated nonpotable *gray* water system or the potable water system within a site containing an on-site treated nonpotable *gray* water system without approval by the Authority Having Jurisdiction.

1504.4 (Formerly 1604.4) Connections to Potable or Reclaimed (Recycled) Water Systems. On-site treated nonpotable *gray* water systems shall have no *unprotected* connection to a potable water supply or reclaimed (recycled) water source system. Potable or reclaimed (recycled) water is permitted to be used as makeup water for a non-pressurized storage tank provided the makeup water supply is protected by an air gap, *reduced-pressure principle backflow preventer*, or other physical device which prevents backflow in accordance with this code.

1504.6 (Formerly 1604.6) On-Site Treated Nonpotable Gray Water System Materials. On-site treated nonpotable *gray* water supply and distribution system materials shall comply with the requirements of this code for potable water supply and distribution systems, unless otherwise provided for in this section.

1504.7 (Formerly 1604.7) On-Site Treated Nonpotable Gray Water Devices and Systems. Devices or equipment used to treat on-site treated nonpotable *gray* water in order to maintain the minimum water quality requirements determined by the Authority Having Jurisdiction shall be listed or labeled (third-party certified) by a listing agency (accredited conformity assessment body) and approved for the intended application. Devices or equipment used to treat on-site treated nonpotable *gray* water for use in water closet and urinal flushing, surface irrigation, and similar applications shall be listed or labeled to NSF 350 or approved by the Authority Having Jurisdiction.

1504.8 (Formerly 1604.8) On-Site Treated Nonpotable Gray Water System Color and Marking Information. On-site treated *nonpotable gray* water systems shall have a colored background and marking information in accordance with Section 601.3 of this code.

1504.10 (Formerly 1604.10) Design and Installation. The design and installation of on-site treated nonpotable *gray* water systems shall be in accordance with Section 1504.10.1 through Section ~~1504.10.5~~ 1504.10.6.

1504.10.1 (Formerly 1604.10.1) Listing Terms and Installation Instructions. On-site treated nonpotable *gray* water systems shall be installed in accordance with the terms of its listing and the manufacturer's installation instructions.

1504.10.2 (Formerly 1604.10.2) Minimum Water Quality. On-site treated nonpotable *gray* water supplied to toilets or urinals or for other uses in which it is sprayed or exposed shall be disinfected. Acceptable disinfection methods shall include chlorination, ultraviolet sterilization, ozone, or other methods as approved by the Authority Having Jurisdiction. The minimum water quality for on-site treated nonpotable *gray* water systems shall meet the applicable water quality requirements for the intended applications as determined by the public health Authority Having Jurisdiction. *In the absence of local water quality requirements for on-site treated nonpotable gray water, Section ~~1604.7~~ 1501.7 shall apply.*

1504.10.3 (Formerly 1604.10.3) Deactivation and Drainage. The on-site treated nonpotable *gray* water system and the potable water system within the building shall be provided with the required appurtenances (e.g., valves, air/vacuum relief valves, etc.) to allow for deactivation or drainage as required for a cross-connection test in accordance with Section 1501.11.2.

1504.10.4 (Formerly 1604.10.4) Near Underground Potable Water Pipe. On-site treated nonpotable *gray* water pipes shall be permitted to be run or laid in the same trench as potable water pipes with a 12 inch (305 mm) minimum vertical and horizontal separation where both pipe materials are approved for use within a building. Where piping materials do not meet this requirement the minimum separation shall be increased to 60 inches (1524 mm). The potable water piping shall be installed at an elevation above the on-site treated nonpotable *gray* water piping.

1504.10.5 (Formerly 1604.10.5) Required Filters. A filter permitting the passage of particulates no larger than 100 microns (100 µm) shall be provided for on-site treated nonpotable *gray* water supplied to water closets, urinals, trap primers, and drip irrigation system.

1504.10.6 (Formerly 1604.10.6) Disinfection. *Where the intended use of on-site treated nonpotable gray water requires disinfection and/or other treatment, on-site treated nonpotable gray water shall be disinfected as needed to ensure the required water quality is obtained at the point of use. Where chlorine is used for disinfection or treatment, water shall be tested for residual chlorine in accordance with ASTM D 1253.*

1504.11 (Formerly 1604.11) Signs. Signs in buildings using on-site treated nonpotable *gray* water shall comply with Section 1501.10 and Section 1501.10.1, and applicable requirements of the California Building Code.

1504.12 (Formerly 1604.12) Inspection and Testing. On-site treated nonpotable *gray* water systems shall be inspected and tested in accordance with Section 1501.11 and/or as required by the Authority Having Jurisdiction.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

20. HCD proposes to adopt Chapter 16 from the 2015 Uniform Plumbing Code with new amendments and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code as follows:

**CHAPTER 16 (Formerly 17)
NONPOTABLE RAINWATER CATCHMENT SYSTEMS**

1601.0 General.

1601.1 Applicability. (HCD 1) The provisions of this chapter shall apply to the installation, construction, alteration, and repair of nonpotable rainwater catchment systems. *In addition, applicable provisions in Chapter 16 15, Sections ~~through 1604.0~~ 1501.7 through 1604.9 for "Alternate Water Sources for Nonpotable Applications" shall apply to rainwater catchment systems.*

1601.2 System Design. Rainwater catchment systems shall be designed in accordance with this chapter ~~by a person registered or licensed to perform plumbing design work or who demonstrates competency to design the rainwater catchment system as required by the Authority Having Jurisdiction~~ *by a person who demonstrates competency to design the alternate water source system as required by the Enforcing Agency. The Enforcing Agency may also require plans and specifications to be prepared by a licensed design professional.* Components, piping, and fittings used in any alternate water source system shall be listed.

Exceptions:

- (1) A person registered or licensed to perform plumbing design work is not required to design rainwater catchment systems used for irrigation with a maximum storage capacity of 360 gallons (1363 L).
- (2) A person registered or licensed to perform plumbing design work is not required to design rainwater catchment systems for single family dwellings where outlets, piping, and system components are located on the exterior of the building.

1601.3 (Formerly 1702.2.1) Permit. It shall be unlawful for a person to construct, install, alter, or cause to be constructed, installed, or altered a rainwater catchment system in a building or on a premise without first obtaining a permit to do such work from the Authority Having Jurisdiction.

Exceptions:

- (1) A permit is not required for exterior rainwater catchment systems used for outdoor drip and subsurface irrigation with a maximum storage capacity of 360 gallons (1363 L).
- (2) A plumbing permit is not required for rainwater catchment systems for single family dwellings where outlets, piping, and system components are located on the exterior of the building. This does not exempt the need for permits where required for electrical connections, tank supports, or enclosures.
- (1) A permit is not required for exterior rainwater catchment systems used for outdoor non-spray irrigation with a maximum storage capacity of 5000 gallons (18 927 L) where the tank is supported directly upon grade and the ratio of height to diameter or width does not exceed 2 to 1 and it does not require electrical power or a makeup water supply connection.
- (2) (HCD 1 & HCD 2) A permit is not required for exterior rainwater catchment systems used for spray irrigation with a maximum storage capacity of 360 gallons (1363 L).

1601.5 Maintenance and Inspection. Rainwater catchment systems and components shall be inspected and maintained in accordance with Section 1601.5.1 through Section 1601.5.3 the manufacturer's recommendations and/or as required by the enforcing agency.

1601.5.1 Frequency. Rainwater catchment systems and components shall be inspected and maintained in accordance with Table 1601.5 unless more frequent inspection and maintenance is required by the manufacturer.

1601.5.2 Maintenance Log. A maintenance log for rainwater catchment systems is required to have a permit in accordance with Section 1601.3 and shall be maintained by the property owner and be available for inspection. The property owner or designated appointee shall ensure that a record of testing, inspection and maintenance in accordance with Table 1601.5 is maintained in the log. The log will indicate the frequency of inspection and maintenance for each system.

1601.5.3 1601.5.1 Maintenance Responsibility. The required maintenance and inspection of rainwater catchment systems shall be the responsibility of the property owner, unless otherwise required by the Authority Having Jurisdiction.

**TABLE 1601.5
MINIMUM ALTERNATE WATER SOURCE TESTING, INSPECTION, AND MAINTENANCE FREQUENCY**

DESCRIPTION	MINIMUM FREQUENCY
Inspect and clean filters and screens, and replace (where necessary).	Every 3 months
Inspect and verify that disinfection, filters and water quality treatment devices and systems are operational and maintaining minimum water quality requirements as determined by the Authority Having Jurisdiction.	In accordance with manufacturer's instructions, and the Authority Having Jurisdiction.
Inspect and clear debris from rainwater gutters, downspouts, and roof washers.	Every 6 months
Inspect and clear debris from roof or other aboveground rainwater collection surfaces.	Every 6 months
Remove tree branches and vegetation overhanging roof or other aboveground rainwater collection surfaces.	As needed
Inspect pumps and verify operation.	After initial installation and every 12 months thereafter
Inspect valves and verify operation.	After initial installation and every 12 months thereafter
Inspect pressure tanks and verify operation.	After initial installation and every 12 months thereafter
Clear debris from and inspect storage tanks, locking devices, and verify operation.	After initial installation and every 12 months thereafter
Inspect caution labels and marking.	After initial installation and every 12 months thereafter.
Cross-connection inspection and test*	After initial installation and every 12 months thereafter.
Test water quality of rainwater catchment systems required by Section 1602.9.4 to maintain water quality	Every 12 months. After system renovation or repair.

*The cross-connection test shall be performed in the presence of the Authority Having Jurisdiction in accordance with the requirements of this chapter.

1601.6 Operation and Maintenance Manual. An operation and maintenance manual for rainwater catchment systems required to have a permit in accordance with Section 1601.3, shall be supplied to the building owner by the system designer *or installer*. The operating and maintenance manual shall include the following:

- (1) Detailed diagram *Diagram(s)* of the entire system and the location of system components.
- (2) Instructions on operating and maintaining the system.
- (3) Details *Instructions* on maintaining the required water quality as determined by the Authority Having Jurisdiction for rainwater catchment systems.
- (4) Details on *startup, shutdown, and* deactivating the system for maintenance, repair, or other purposes.
- (5) Applicable testing, inspection, and maintenance frequencies in accordance with Table *Section* 1601.5.
- (6) A method of contacting the *installer and/or* manufacturer(s).
- (7) *Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.*

1601.7 (Formerly 1702.9.4) Minimum Water Quality Requirements. The minimum water quality for rainwater catchment systems shall comply with the applicable water quality requirements for the intended application as determined by Authority Having Jurisdiction. Water quality for nonpotable rainwater catchment systems, shall comply with Section 1602.9.4. *In the absence of water quality requirements for harvested rainwater, Table 1702.9.4 1602.9.4 shall apply.*

Exceptions:

- (1) Water treatment is not required for rainwater catchment systems used for aboveground irrigation with a maximum storage capacity of 360 (1363 L).
- (2) Water treatment is not required for rainwater catchment systems used for *surface*, subsurface or drip irrigation.

1602.0 Nonpotable Rainwater Catchment Systems.

1602.4 (Formerly 1702.4) Connections to Potable or Reclaimed (Recycled) Water Systems. Rainwater catchment systems shall have no ~~direct unprotected~~ connection to a potable water supply or alternate water source system. Potable or reclaimed (recycled) water is permitted to be used as makeup water for a rainwater catchment system provided the potable or reclaimed (recycled) water supply connection is protected by an airgap or reduced-pressure principle backflow preventer in accordance with this code.

1602.9.3.1 Other Surfaces. Natural precipitation collected from surface water runoff, vehicular parking surfaces, or manmade surfaces at or below grade shall be in accordance with the ~~with the stormwater~~ water quality requirements for on-site treated nonpotable gray water systems in section 1504.0.

Exception: Collected rainwater or storm water used exclusively for subsurface landscape irrigation.

1602.9.4.1 (Formerly 1702.9.4.1) Disinfection. *Where the initial quality of the collected rainwater requires disinfection or other treatment or both, the collected rainwater shall be treated as necessary to ensure the required water quality is delivered at the point of use. Where chlorine is used for disinfection or treatment, water shall be tested for residual chlorine in accordance with ASTM D 1253. The levels of residual chlorine shall not exceed the levels allowed for the intended use in accordance with the requirements of the local Enforcing Agency.*

**TABLE 1602.9.4 (Formerly 1702.9.4)
MINIMUM WATER QUALITY**

Application	Minimum Treatment	Minimum Water Quality
Car washing	Debris excluder or other approved means in compliance with Section 1602.9.10 100 Micron (100 µm) in compliance with Section 1602.9.11 for drip irrigation	N/A
Surface, subsurface and drip irrigation	Debris excluder or other approved means in compliance with Section 1602.9.10 100 Micron (100 µm) in compliance with Section 1602.9.11 for drip irrigation	N/A
Spray irrigation where the maximum storage volume is less than 360 gallons (1363 L)	Debris excluder or other approved means in compliance with Section 1602.9.10, and disinfection in accordance with Section 1602.9.8	N/A
Spray irrigation where the maximum storage volume is equal to or greater than 360 gallons (1363 L)	Debris excluder or other approved means in compliance with Section 1602.9.10	Escherichia coli: < 100 CFU/100 ml Turbidity: < 10 NTU
Urinal and water closet flushing, clothes washing, and trap priming	Debris excluder or other approved means in compliance with Section 1602.9.10 100 Micron (100 µm) in compliance with Section 1602.9.11	Escherichia coli: < 100 CFU/100 ml Turbidity: < 10 NTU
Ornamental fountains and other water features	Debris excluder or other approved means in compliance with Section 1602.9.10	Escherichia coli: < 100 CFU/100 ml Turbidity: < 10 NTU
Cooling tower make up water	Debris excluder or other approved means in compliance with Section 1602.9.10 100 Micron (100 µm) in compliance with Section 1602.9.11	Escherichia coli: < 100 CFU/100 ml Turbidity: < 10 NTU

1602.9.5.3 (Formerly 1702.9.5.3) Above Grade. Above grade storage tanks shall be of an opaque material, approved for aboveground use in direct sunlight or shall be shielded from direct sunlight. Tanks shall be installed in an accessible location to allow for inspection and cleaning. The tank shall be installed on a foundation or platform that is constructed to accommodate loads in accordance with the building code California Building Code.

1602.9.5.4 (Formerly 1702.9.5.4) Below Grade. Rainwater storage tanks installed below grade shall be structurally designed to withstand anticipated earth or other loads. Holding tank covers shall be capable of supporting an earth load of not less than 300 pounds per square foot (lb/ft²) (1465 kg/m²) where the tank is designed for underground installation. Below grade rainwater tanks installed underground shall be provided with manholes. *Below grade storage tanks, located outside of the building, shall be provided with either a manhole not less than 24 inches (610 mm) square or a manhole with an inside diameter of not less than 24 inches (610 mm). Service ports in manhole covers shall be not less than 8 inches (203 mm) in diameter.* The manhole opening shall be ~~not less than 20 inches (508 mm) in diameter and~~ located not less than a minimum of 4 inches (102 mm) above the surrounding grade. The surrounding grade shall be sloped away from the manhole. Underground tanks shall be ballasted, anchored, or otherwise secured, to prevent the tank from

floating out of the ground where empty. The combined weight of the tank and hold down system should meet or exceed the buoyancy force of the tank.

1602.9.5.5 (Formerly 1702.9.5.5) Drainage and Overflow. Rainwater storage tanks shall be provided with a means of draining and cleaning. The overflow drain shall not be equipped with a shutoff valve. The overflow outlet shall discharge in accordance with this code for storm drainage systems. Where discharging to the storm drainage system, the overflow drain *and tank drain* shall be protected from backflow of the storm drainage system by a backwater valve or other approved method. *Backwater valves shall be installed so that access is provided to the working parts for service and repair.*

1602.9.5.6 Opening and Access Protection. Rainwater tank openings shall be protected to prevent the entrance of insects, birds, or rodents into the tank *and piping systems*. ~~Rainwater tank access openings exceeding 12 inches (305mm) in diameter shall be secured to prevent tampering and unintended entry by either a lockable device or other approved method.~~

(A) Animals and Insects. (Formerly 1702.9.5.6 (A)) *Screens installed on vent pipes, inlets, and overflow pipes shall have an aperture of not greater than 1/16 of an inch (1.6 mm) and shall be close fitting.*

(B) Human Access. (Formerly 1702.9.5.6 (B))

A minimum of one access opening shall be provided to allow inspection and cleaning. Rainwater tank manholes and access openings shall be secured by either a lockable device or other approved method to prevent unauthorized access.

1602.9.5.8 Storage Tank Venting (Formerly 1702.9.5.7 Venting). Where venting by means of drainage or overflow piping is not provided, or is considered insufficient, a vent shall be installed on each tank. The vent shall extend from the top of the tank and terminate not less than 6 inches (152 mm) above grade and ~~shall be not less than 1 1/2 inches (40 mm) in diameter shall be provided with a vent sized in accordance with this code, and based on the size of the tank influent pipe.~~ The vent terminal shall be directed downward and covered with a 3/32 ~~1/16~~ of an inch ~~(2.4 mm)~~ (1.6 mm) mesh screen to prevent the entry of vermin and insects. *Tank vent pipes shall not be connected to the sanitary drainage system vent.*

1602.10 (Formerly 1702.10) Signs. Signs in buildings using rainwater water shall be in accordance with Section 1602.10.1 and Section 1602.10.2 *and shall also comply with the applicable requirements of the California Building Code.*

1602.10.1 (Formerly 1702.10.1) Commercial, Industrial, and Institutional, and Residential Restroom Signs.

A sign shall be installed in restrooms in commercial, industrial, and institutional occupancies, *and shall also be installed in residential common use area restrooms* using nonpotable rainwater for water closets, urinals, or both. Each sign shall contain ~~1/2 of an inch (12.7 mm) letters of a highly visible color on a contrasting background.~~ The location of the sign(s) shall be such that the sign(s) shall be visible to users. ~~The number and location of the signs shall be approved by the Authority Having Jurisdiction and shall contain the following text:~~

TO CONSERVE WATER, THIS BUILDING USES RAINWATER TO FLUSH TOILETS AND URINALS.

1602.10.2 (Formerly 1702.10.2) Equipment Room Signs. Each equipment room containing nonpotable rainwater equipment shall have a sign posted with the following wording in 1 inch (25.4 mm) letters:

CAUTION NONPOTABLE RAINWATER, DO NOT DRINK. DO NOT CONNECT TO DRINKING WATER SYSTEM. NOTICE: CONTACT BUILDING MANAGEMENT BEFORE PERFORMING ANY WORK ON THIS WATER SYSTEM.

This sign shall be posted in a location that is visible to anyone working on or near rainwater water equipment.

1602.11.2 (Formerly 1702.11.2) Annual Cross-Connection Inspection and Testing. ~~An initial and subsequent annual~~ inspection and test required in accordance with Section 1602.5 shall be performed on both the potable and rainwater catchment water systems. The potable and rainwater catchment water systems shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection in accordance with Section 1602.11.2.1 through Section 1602.11.2.4.

1602.11.2.3 (Formerly 1702.11.2.3) Discovery of Cross-Connection. In the event that a cross-connection is discovered, the following procedure, in the presence of the Authority Having Jurisdiction, shall be activated immediately:

- (1) Rainwater catchment water piping to the building shall be shut down at the meter supply source(s), and the rainwater water riser shall be drained.
- (2) Potable water piping to the building shall be shut down at the meter.
- (3) The cross-connection shall be uncovered and disconnected.
- (4) The building shall be retested following procedures listed in Section 1602.11.2.1 and Section 1602.11.2.2.
- (5) The potable water system shall be chlorinated with 50 ppm chlorine for 24 hours.
- (6) The potable water system shall be flushed after 24 hours, and a standard bacteriological test shall be performed. Where test results are acceptable, the potable water system shall be permitted to be recharged.

~~1602.11.2.4 Annual Inspection. An annual inspection of the rainwater catchment water system, following the procedures listed in Section 1602.11.2.1 shall be required. Annual cross-connection testing, following the procedures listed in Section 1602.11.2.2 shall be required by the Authority Having Jurisdiction, unless site conditions do not require it. In no event shall the test occur less than once in 4 years. Alternate testing requirements shall be permitted by the Authority Having Jurisdiction.~~

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 1295

21. HCD proposes to repeal existing California amendments from Chapter 16 of the 2013 California Plumbing Code and not bring forward these amendments into the 2016 California Plumbing Code as follows:

**CHAPTER 16
ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS**

1604.12.1 Supply System Inspection and Test. On-site treated nonpotable *gray* water systems shall be inspected and tested in accordance with this code for testing of potable water piping.

1604.12.2 Cross-Connection Inspection and Testing. An initial and test shall be performed on both the potable and on-site treated nonpotable *gray* water systems. The potable and on-site treated nonpotable *gray* water system shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection in accordance with Section 1604.12.2.1 through Section 1604.12.2.3.

1604.12.2.2 Cross-Connection Test. The procedure for determining cross-connection shall be followed by the applicant in the presence of the Authority Having Jurisdiction and other Authorities Having Jurisdiction to determine whether a cross-connection has occurred as follows:

- (1) The potable water system shall be activated and pressurized. The on-site treated nonpotable *gray* water system shall be shut down and completely drained.
- (2) The potable water system shall remain pressurized for a minimum period of time specified by the Authority Having Jurisdiction while the on-site treated nonpotable *gray* water system is empty. The minimum period the on-site treated nonpotable *gray* water system is to remain depressurized shall be determined on a case-by-case basis, taking into account the size and complexity of the potable and on-site treated *gray* water distribution systems, but in no case shall that period be less than 1 hour.
- (3) Fixtures, potable and on-site treated, shall be tested and inspected for flow. Flow from an on-site treated *gray*-water system outlet indicates a cross-connection. No flow from a potable water outlet shall indicate that it is connected to the on-site treated *gray* water system.
- (4) The drain on the on-site treated nonpotable *gray* water system shall be checked for flow during the test and at the end of the test.
- (5) The potable water system shall then be completely drained.

- (6) The on-site treated nonpotable ~~gray~~ water system shall then be activated and pressurized.
- (7) The on-site treated nonpotable ~~gray~~ water system shall remain pressurized for a minimum period of time specified by the Authority Having Jurisdiction while the potable water system is empty. The minimum period the potable water system is to remain depressurized shall be determined on a case-by-case basis, but in no case shall that period be less than 1 hour.
- (8) Fixtures, potable and on-site treated nonpotable, shall be tested and inspected for flow. Flow from a potable water system outlet indicates a cross-connection. No flow from an on-site treated ~~gray~~ water outlet will indicate that it is connected to the potable water system.
- (9) The drain on the potable water system shall be checked for flow during the test and at the end of the test.
- (10) Where there is no flow detected in the fixtures which would indicate a cross-connection, the potable water system shall be repressurized.

1604.12.2.3 Discovery of Cross-Connection. In the event that a cross-connection is discovered, the following procedure, in the presence of the Authority Having Jurisdiction, shall be activated immediately:

- (1) On-site treated nonpotable ~~gray~~ water piping to the building shall be shut down at the ~~source~~ and the on-site treated ~~gray~~ water riser shall be drained.
- (2) Potable water piping to the building shall be shut down at the meter.
- (3) The cross-connection shall be uncovered and disconnected.
- (4) The building shall be retested in accordance with procedures listed in Section 1604.12.2.1 and Section 1604.12.2.2.
- (5) The potable water system shall be chlorinated with 50 ppm chlorine for 24 hours.
- (6) The potable water system shall be flushed after 24 hours, and a standard bacteriological test shall be performed. Where test results are acceptable, the potable water system shall be permitted to be recharged.

1604.13 Sizing. On-site treated nonpotable ~~gray~~ water piping shall be sized in accordance with Section 610.0 of this code.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

22. HCD proposes to repeal existing California amendments from Chapter 17 of the 2013 California Plumbing Code as follows:

**CHAPTER 17
RAINWATER CATCHMENT SYSTEMS**

~~**1702.2.1 Permit.** It shall be unlawful for a person to construct, install, alter, or cause to be constructed, installed, or altered, a nonpotable rainwater catchment system in a building or on a premise without first obtaining a permit to do such work from the Authority Having Jurisdiction.~~

~~**1702.9.3 Collection Surfaces.** Rainwater shall be collected from roof surfaces, or other manmade, above-ground impervious collection surfaces. Rainwater collected from surface water runoff, vehicular parking surfaces or manmade surfaces at or below grade shall comply with the water quality requirements for on-site treated nonpotable gray water in Section 1604.0.~~

~~**1702.9.4 Minimum Water Quality.** The minimum water quality for harvested rainwater shall meet the applicable water quality requirements for the intended applications as determined by the Authority Having Jurisdiction. No treatment is required for rainwater used for subsurface or non-sprinkled surface irrigation where the maximum storage volume is less than 360 gallons (1363 L). *In the absence of water quality requirements for harvested rainwater, Table 1702.9.4 shall apply.*~~

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

23. HCD proposes to adopt Chapter 17 from the 2015 Uniform Plumbing Code and bring forward existing amendments from the 2013 California Plumbing Code into the 2016 California Plumbing Code with modification as follows:

**CHAPTER 17 (Formerly 14)
REFERENCED STANDARDS**

**TABLE 1701.1 (Formerly 1401.1)
REFERENCED STANDARDS**

STANDARD NUMBER	STANDARD TITLE	APPLICATION	REFERENCED SECTIONS
<u>ASTM D1253-14</u>	<u>Standard Test Method for Residual Chlorine in Water</u>	<u>Miscellaneous</u>	<u>1504.10.6,</u> <u>1602.9.4.1</u>
<u>NSF 350 – 2011 2012</u>	<u>Onsite Residential and Commercial Water Reuse Treatment Systems</u> <u>NSF/ANSI 350, amended sections follow:</u> <u>5.6 Electrical components.</u> <u>Electrical components...The California Electrical Code shall be followed for all electrical components, system installation, and system operation.</u>	<u>Miscellaneous</u>	<u>1601.7,</u> <u>1604.10.2</u> <u>1501.7,</u> <u>1504.10.2</u>
...			

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

24. HCD proposes to adopt Appendix A from the 2015 Uniform Plumbing Code into the 2016 California Plumbing Code without amendments:

**APPENDIX A
RECOMMENDED RULES FOR SIZING THE WATER SUPPLY SYSTEM**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

25. HCD proposes to NOT adopt Appendix B from the 2015 Uniform Plumbing Code.

**APPENDIX B
EXPLANATORY NOTES ON COMBINATION WASTE AND VENT SYSTEMS**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

26. HCD proposes to NOT adopt Appendix C from the 2015 Uniform Plumbing Code.

**APPENDIX C
ALTERNATE PLUMBING SYSTEMS**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

27. HCD proposes to adopt Appendix D from the 2015 Uniform Plumbing Code into the 2016 California Plumbing Code without amendment:

**APPENDIX D
SIZING STORM WATER DRAINAGE SYSTEMS**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

28. HCD proposes to NOT adopt Appendix E from the 2015 Uniform Plumbing Code.

**APPENDIX E
MANUFACTURED/MOBILE HOME PARKS AND RECREATIONAL VEHICLE PARKS**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

29. HCD proposes to NOT adopt Appendix F from the 2015 Uniform Plumbing Code.

**APPENDIX F
FIREFIGHTER BREATHING AIR REPLENISHMENT SYSTEMS**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

30. HCD proposes to NOT adopt Appendix G from the 2015 Uniform Plumbing Code.

**APPENDIX G
SIZING OF VENTING SYSTEMS**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

31. HCD proposes to adopt Appendix H from the 2015 Uniform Plumbing Code into the 2016 California Plumbing Code without amendment:

**APPENDIX H
PRIVATE SEWAGE DISPOSAL SYSTEMS**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

32. HCD proposes to adopt Appendix I from the 2015 Uniform Plumbing Code into the 2016 California Plumbing Code without amendment:

**APPENDIX I
INSTALLATION STANDARD FOR PEX TUBING SYSTEMS
FOR HOT – AND COLD-WATER DISTRIBUTION**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

33. HCD proposes to repeal existing California amendments from the 2013 California Plumbing Code and not bring forward into the 2016 California Plumbing Code as follows:

**INSTALLATION STANDARD
FOR ABS BUILDING DRAIN, WASTE AND VENT PIPE AND FITTINGS
IAPMO IS 5-2006**

2.2.6 Piping Installed in Fire Resistive Construction.

All piping penetrations of fire resistance rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the ~~California Building Code and~~ IAPMO Installation Standards. (UPC 213.7)

**INSTALLATION STANDARD
FOR CPVC SOLVENT CEMENTED HOT AND COLD WATER DISTRIBUTION SYSTEMS
IAPMO IS 20-2010**

1.2 Special Requirements for CPVC Installation within Residential Structures. [HCD 1] In addition to the other requirements in the California Plumbing Code and this Appendix for the installation of CPVC Solvent Cemented Hot and Cold Water Distributions Systems, all installations of CPVC pipe within residential structures shall meet the following:

1.2.1 Flushing Procedures. All installations of CPVC pipe within residential structures shall be flushed twice over a period of at least one (1) week. The pipe system shall be first flushed for at least 10 minutes and then filled and allowed to stand for no less than 1 week, after which all the branches of the pipe system must be flushed long enough to fully empty the contained volume. At the time of the fill, each fixture shall have a removable tag applied stating: "This new plumbing system was first filled on (date) by (name). The California Department of Housing and Community Development requires that the system be flushed after standing at least one week after the fill date specified above. If the system is used earlier than one week after the fill date, the water must be allowed to run for at least two minutes prior to use for human consumption. This tag may not be removed prior to flushing, except by the homeowner."

1.2.2 Worker Safety Measures. Mechanical ventilation sufficient to maintain exposures below the relevant exposure limits established by state regulation shall be provided in enclosed spaces. This ventilation shall be directed at the breathing zone of the worker installing the pipe. Where mechanical ventilation is not practical, respirators, suitable for organic vapors, shall be used. For the purpose of this subdivision, an enclosed space is defined as:

- (a) A space less than 100 square feet of floor area under a ceiling with a height of 10 feet or less, and which does not have openings (consisting of doors, windows, or unfinished walls) on at least two sides;
- (b) Crawl spaces having a height of less than three feet;
- (c) Enclosed attics that have a roof and ceiling; or
- (d) Trenches having a depth greater than 24 inches.

Installers of CPVC pipe within residential structures shall use non-latex thin gauge (4 millimeters) nitrile gloves, or other gloves providing an equivalent or better degree of protection during the installation of the CPVC plumbing system. Gloves shall be provided to all workers by the contractor, or plumbing subcontractor, and shall be replaced upon contamination by cements.

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

34. HCD proposes to NOT adopt Appendix J from the 2015 Uniform Plumbing Code.

APPENDIX J COMBINATION OF INDOOR AND OUTDOOR COMBUSTION AND VENTILATION OPENING DESIGN

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

35. HCD proposes to NOT adopt Appendix K from the 2015 Uniform Plumbing Code.

**APPENDIX K
POTABLE RAINWATER CATCHMENT SYSTEMS**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

36. HCD proposes to NOT adopt Appendix L from the 2015 Uniform Plumbing Code.

**APPENDIX L
SUSTAINABLE PRACTICES**

NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17050, 17920.9, 17921, 17921.3, 17921.6, 17921.10, 17922, 17922.6, 17922.12, 17927, 17928, 17959.6, 18300, 18552, 18554, 18620, 18630, 18640, 18670, 18690, 18691, 18865, 18871.3, 18871.4, 18873, 18873.1, 18873.2, 18873.3, 18873.4, 18873.5, 18938.3, 18944.11, and 19990; and Government Code Section 12955.1.

Reference: Health and Safety Code Sections 17000 through 17062.5, 17910 through 17995.5, 18200 through 18700, 18860 through 18874, and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

**FINAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF STATEWIDE HEALTH PLANNING & DEVELOPMENT
REGARDING PROPOSED CHANGES TO
CALIFORNIA PLUMBING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5**

LEGEND FOR FINAL EXPRESS TERMS (combination of 45-day and 15-day changes)

1. For 45-day and 15-Day changes, existing California amendments or code language being modified appears in *italics*, with modified language underlined.
2. For 45-day and 15-Day changes, repealed text appears in ~~strikeout~~.
3. Highlighted text: The highlighted text provides only clarification of proposed language.

FINAL EXPRESS TERMS

**CHAPTER 1
ADMINISTRATION**

**DIVISION I
CALIFORNIA ADMINISTRATION**

Adopt the 2015 Uniform Plumbing Code (UPC) and carry forward existing amendments of the 2013 California Plumbing Code (CPC) for OSHPD 1, 2, 3, & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

**CHAPTER 1
DIVISION II
ADMINISTRATION**

Adopt the 2015 Uniform Plumbing Code (UPC) and carry forward existing amendments of the 2013 California Plumbing Code (CPC) for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

**CHAPTER 2
DEFINITIONS**

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter and carry forward existing amendments of the 2013 California Plumbing Code (CPC) for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

**CHAPTER 3
GENERAL REGULATIONS**

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter and carry forward existing amendments of the 2013 California Plumbing Code (CPC) for OSHPD 1, 2, 3 & 4 with the following modifications:

310.0 Prohibited Fittings and Practices. ...

310.10 [OSHPD 1, 3 & 4] *Floor drains and handwashing fixtures shall not be installed in operating and delivery rooms. Floor drains with self-priming traps may be installed in cystoscopic rooms.*

320.0 Rehabilitation of Piping Systems.

320.1 General. Where pressure piping ... ASTM F2831.

321.0 Essential Plumbing Provisions [OSHPD 1, 2, 3 (surgical clinics), & 4] *During periods of power outages essential electrical power shall be provided for the following equipment:*

- (1) Domestic water booster pumps.
- (2) Domestic hot water circulating pumps.
- (3) Sewage ejector pumps.
- (4) Sump pumps and drainage pumps.
- (5) Domestic water heating equipment and their controls.
- (6) Fuel pumps.
- (7) Grease removal devices requiring electrical power.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

**CHAPTER 4
PLUMBING FIXTURES AND FIXTURE FITTINGS**

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter and carry forward existing amendments of the 2013 California Plumbing Code (CPC) for OSHPD 1, 2, 3 & 4 with the following modifications:

412.0 Urinals.

412.1 Application. Urinals shall comply with ASME A112.19.2/CSA B45.1, ASME A112.19.19, or CSA B45.5/IAMPO Z124. Urinals shall have an average water consumption not to exceed 1 gallon (3.8 Lpf) of water per flush.

412.1.1 Nonwater Urinals. ~~[Not adopted for OSHPD 1, 2, 3, & 4]~~ Nonwater urinals shall have a barrier liquid sealant to maintain a trap seal. Nonwater urinals shall permit the uninhibited flow of waste through the urinal to the sanitary drainage system. Nonwater urinals shall be cleaned and maintained in accordance with the manufacturer's instructions after installation. Where nonwater urinals are installed, not less than one water supplied fixture rated at not less than 1 water supply fixture unit (WSFU) shall be installed upstream on the same drain line to facilitate drain line flow and rinsing. Where nonwater urinals are installed they shall have a water distribution line rough-in to the urinal location to allow for the installation of an approved backflow prevention device in the event of a retrofit.

...
Due to renumbering in the 2015 Uniform Plumbing Code, the existing 2013 California Plumbing Code OSHPD amendment of Section 413.3 is to be carried forward to Section 413.2.

413.3 413.2 Flushometer Valves. Flushometer valves and tanks shall comply with ASSE 1037 or CSA B125.3, and shall be installed in accordance with Section 603.5.1. No manually controlled flushometer valve shall be used to flush more than one 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. Where 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. ~~[OSHPD 1, 2, 3, & 4]~~ *Sensor operated flush valves shall be capable of functioning during loss of normal power.*

...
422.0 Minimum Number of Required Fixtures.

422.1 Fixture Count. ...

422.2 Separate Facilities. Separate toilet facilities shall be provided for each sex.

Exceptions: ~~[Not adopted for OSHPD 1, 2, 3 & 4]~~

- (1) Residential installations.
- (2) In occupancies with a total occupant load of 10 or less, including customers and employees, one toilet facility, designed for use by no more than one person at a time, shall be permitted for use by both sexes.
- (3) In business and mercantile occupancies with a total occupant load of 50 or less including customers and employees, one toilet facility, designed for use by no more than one person at a time, shall be permitted for use by both sexes.

422.2.1 Family or Assisted-Use Toilet Facilities. Where a separate toilet facility is required for each sex, and each toilet facility is required to have only one water closet, two family or assisted-use toilet facilities shall be permitted in place of the required separate toilet facilities.

Due to the renumbering in the 2015 Uniform Plumbing Code, the existing 2013 California Plumbing Code OSHPD amendment of Section 422.2.1 is to be carried forward to Section 422.2.2.

422.2.1-2 [OSHPD 1, 2, 3 & 4] *Separate toilet facilities shall be provided for the use of patients, staff personnel and visitors.*

Exception for Primary Care Clinics only: *Where a facility contains no more than three examination and/or treatment rooms, the patient toilet shall be permitted to serve waiting areas.*

TABLE 4-2
[OSHPD 1, 2, 3 & 4]²⁴ MINIMUM PLUMBING FACILITIES

SPACE	HANDWASHING FIXTURE	SCRUB SINKS ³	TOILETS	BATHTUBS OR SHOWERS	SERVICE SINKS ¹	CLINIC SINKS
<i>Renal Dialysis Service Space</i>	<i>1:4</i>				<i>1</i>	
...						
<i>Repair room¹¹</i>	<i>1</i>				<i>1</i>	
<i>Dialysis P-patient toilet</i>	<i>1-²</i>		<i>1</i>			
<i>Staff lounge</i>						

Notes:

- 1 Each department ...
- 2 Conventional spouts and controls on hot-and cold-water supplies are acceptable. Aerators are not permitted. Non-aerating laminar flow devices are permitted.
- 3 Scrub sink ...

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

CHAPTER 5
WATER HEATERS

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

CHAPTER 6
WATER SUPPLY AND DISTRIBUTION

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter and carry forward existing amendments of the 2013 California Plumbing Code (CPC) for OSHPD 1, 2, 3 & 4 with the following modifications:

604.0 Materials.

604.1 Pipe, Tube, and Fittings. Pipe, tube, fittings, solvent cements, thread sealants, solders, and flux used in potable water systems intended to supply drinking water shall be in accordance with the requirements of NSF 61. Where fittings and valves are made from copper alloys containing more than 15 percent zinc by weight, and are used in plastic piping systems, they shall be resistant to dezincification and stress corrosion cracking in accordance with NSF 14.

Materials used in the water supply system, except valves and similar devices, shall be of a like material, except where otherwise approved by the Authority Having Jurisdiction.

Materials for building water piping and building supply piping shall comply with the applicable standards referenced in Table 604.1.

~~**Exception:** [OSHPD 1, 2, 3 & 4] Use of CPVC is not permitted for applications under authority of the Office of Statewide Health Planning and Development.~~

...

605.3.3.2 605.1.3.2 [Not permitted for OSHPD 1, 2, 3, & 4] Pressed Fittings. Pressed fittings for copper pipe or copper alloy pipe or tubing shall have an elastomeric O-ring that forms the joint. The pipe or tubing shall be fully inserted into the fitting, and the pipe or tubing marked at the shoulder of the fitting. Pipe or tubing shall be cut square, chamfered, and reamed to full inside diameter. The fitting alignment shall be checked against the mark on the pipe or tubing to ensure the pipe or tubing is inserted into the fitting. The joint shall be pressed using the tool recommended by the manufacturer.

...

Due to renumbering in the 2015 Uniform Plumbing Code, the existing 2013 California Plumbing Code OSHPD amendment of Section 605.16 is to be carried forward to Section 605.15.

605.16 605.15 Dielectric Unions. Dielectric unions where install at points of connection where there is a dissimilarity of metals shall be in accordance with ASSE 1079. *[OSHPD 1, 2, 3 & 4] Dielectric unions shall be used at all points of connection where there is a dissimilarity of metals.*

...

614.0 Dialysis Water-Distribution Systems.

614.1 [OSHPD 1, 2, 3, & 4] Dialysis water feedlines shall be PVC (polyvinyl chloride), glass, stainless steel, or PVDF (polyvinylidene fluoride) and sized to provide a minimum velocity of 1.5 feet per second (0.46 m/s). The piping shall be a singleloop system with or without recirculation. Branches to dialysis machines shall be 1/4 inch (6.4 mm) inside dimension and take off from the bottom of the main feedline. Branch lines may be PFA (perfluoroalkoxy).

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 7 SANITARY DRAINAGE

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3, & 4 and carry forward existing amendments of the 2013 California Plumbing Code (CPC) for OSHPD 1 with the following modifications:

701.0 General.

701.1 Applicability. This chapter shall ...

~~701.1~~ **701.2 Drainage Piping.** Materials for drainage piping shall be in accordance with one of the referenced standards in Table 701.2 except that:

- (1) No galvanized wrought-iron ... aboveground.
- (2) ABS and PVC DWV piping installations shall be installed in accordance with applicable standards referenced in Table 1701.1 and Chapter 14 "Firestop Protection." Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of not more than 25 and a smoke-developed index of not more than 50, where tested in accordance with ASTM E84 or UL 723.
- ~~(b) [OSHPD 1, 2, 3 & 4] ABS and PVC installations are not allowed.~~
- (3) No vitrified clay ... belowground.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 8 INDIRECT WASTE

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 9 VENTS

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter and carry forward existing amendments of the 2013 California Plumbing Code (CPC) for OSHPD 1, 2, 3 & 4 with the following modifications:

903.0 Materials.

903.1 Applicable Standards. Vent pipe and fittings shall comply with the applicable standards referenced in Table 701.2, except that:

- (1) No galvanized steel ... aboveground.
- (2) ABS and PVC DWV piping installations shall be in accordance with the applicable standards referenced in Table 1701.1, and Chapter 14 "Firestop Protection." Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of not more than 25 and a smoke-developed index of not more than 50 where tested in accordance with ASTM E84 or UL 723.

~~903.1.3 [OSHPD 1, 2, 3 & 4] ABS and PVC installations are not allowed.~~

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 10 TRAPS AND INTERCEPTORS

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter and carry forward existing amendments of the 2013 California Plumbing Code (CPC) for OSHPD 1, 2, 3 & 4 with the following modifications.

Due to renumbering of the 2015 Uniform Plumbing Code, the existing 2013 California Plumbing Code OSHPD amendments Sections 1015.6 and 1015.7 are being renumbered and carried forward as follows.

~~1015.5~~ **1015.4 Performance.** FOG disposal systems shall produce an effluent quality no to exceed 5.84 grains per gallon (gr/gal) (100 mg/L) FOG in accordance with ASME A112.14.16.

~~1015.6~~ **1015.5 [OSHPD 1, 2, 3 & 4]** Grease interceptors shall not be installed in food preparation area of kitchens.

~~1015.7~~ **1015.6 [OSHPD 1, 2, 3 & 4]** Grease interceptors shall be installed outside of the kitchen area in location affording ease of maintenance and servicing.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 11 STORM DRAINAGE

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter and repeal amendments Sections 1101.3.2 and 1102.1.3 for OSHPD 1, 2, 3 & 4 as follows:

1101.2 1101.3 Storm Water Drainage to Sanitary Sewer Prohibited. ...

1101.3 1101.4 Materials Uses. Pipe, tube, and fittings conveying rainwater shall be of such materials and design as to perform their intended function to the satisfaction of the Authority Having Jurisdiction. Conductors within a vent or shaft shall be of cast-iron, galvanized steel, wrought-iron, copper, copper alloy, lead, Schedule 40 ABS DWV, Schedule 40 PVC DWV, stainless steel 304 or 316L [stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than 6 inches (152mm) aboveground], or other approved materials, and changes in direction shall be in accordance with the requirements of Section 706.0. ABS and PVC DWV piping installations shall be installed in accordance with Chapter 14 "Firestop Protection." Except for individual single-family dwelling units, materials exposed within ducts or plenums shall have a flame-spread index of not more than 25 and a smoke-developed index of not more than 50, where tested in accordance with ASTM E84 or UL 723.

~~1101.3.2 [OSHPD 1, 2, 3, & 4] ABS and PVC installations are not allowed.~~

...

1102.0 1101.4 Materials Uses.

1102.1 1101.4.2 Conductors. Conductors installed aboveground in buildings shall be in accordance with the applicable standards referenced in Table 701.2 for aboveground drain, waste, and vent pipe. Conductors installed aboveground level shall be of seamless copper water tube, Type K, L, or M; Schedule 40 copper pipe or Schedule 40 copper alloy pipe; Type DWV copper drainage tube; service weight cast-iron soil pipe or hubless cast-iron soil pipe; standard weight galvanized steel pipe; stainless steel 304 or 316L [stainless steel 304 pipe and fittings shall not be installed underground and shall be kept not less than 6 inches (152mm) aboveground]; or Schedule 40 ABS or Schedule 40 PVC plastic pipe.

~~1102.1.3 [OSHPD 1, 2, 3, & 4] ABS and PVC installations are not allowed.~~

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 12 FUEL GAS PIPING

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

CHAPTER 13 HEALTH CARE FACILITIES AND MEDICAL GAS AND MEDICAL VACUUM SYSTEMS

Adopt the 2015 Uniform Plumbing Code (UPC) and carry forward existing amendments of the 2013 California Plumbing Code (CPC) for OSHPD 1, 2, 3 & 4.

Relocating and renumbering existing 2013 California Plumbing Code OSHPD amendment Section 1301.2.1 to Section 1304.1.2.

1304.0 Medical Gas and Medical Vacuum Piping Systems.

1304.1 General. The installation of medical gas and medical vacuum piping systems shall comply with the requirements of this chapter.

~~1301.2.1~~ **1304.1.2 [OSHPD 1, 2, 3 & 4]** *Medical gas systems for health care facilities that are regulated by OSHPD (hospitals, skilled nursing facilities, and intermediate care facilities, licensed clinics, and correctional treatment centers) shall be in accordance with NFPA 99, Standard for Health Care Facilities. See California Building Code Table 1224.4.6.1 for location and number of station outlets for oxygen, vacuum, and medical air.*

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 14
FIRESTOP PROTECTION**

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 15
ALTERNATE WATER SOURCES FOR NONPOTABLE APPLICATIONS**

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 16
NONPOTABLE RAINWATER CATCHMENT SYSTEMS**

Entire Chapter not adopted by OSHPD.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5

Reference: Health and Safety Code Section 129850

**CHAPTER 17
REFERENCED STANDARDS**

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

**APPENDIX A
RECOMMENDED RULES FOR SIZING THE WATER SUPPLY SYSTEM**

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

**APPENDIX B
EXPLANATORY NOTES ON COMBINATION WASTE AND VENT SYSTEMS**

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

**APPENDIX D
SIZING STORM WATER DRAINAGE SYSTEMS**

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

**APPENDIX I
INSTALLATION STANDARDS**

Adopt entire 2015 Uniform Plumbing Code (UPC) chapter for OSHPD 1, 2, 3 & 4.

Notation

Authority: Health and Safety Code Sections 1226, 1275, 18928, 129790 and 129850; Government 11152.5
Reference: Health and Safety Code Section 129850

**FINAL EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
OFFICE OF THE STATE FIRE MARSHAL**

**REGARDING PROPOSED CHANGES TO
2016 CALIFORNIA PLUMBING CODE
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 5**

LEGEND FOR EXPRESS TERMS

1. Existing California amendments or code language being modified are in italics when they appear in the model code text: All such language appears in *italics*, modified language is underlined.
2. New California amendments: All such language appears underlined and in italics.
3. Repealed text: All such language appears in ~~strikeout~~.

The Office of the State Fire Marshal (SFM) proposes to adopt the 2015 edition of the Uniform Plumbing Code (UPC) into the 2016 edition of the California Plumbing Code (CPC). SFM further proposes to:

- Repeal the adoption by reference of the 2012 Uniform Plumbing Code and incorporate and adopt by reference in its place the 2015 Uniform Plumbing Code for application and effectiveness in the 2016 California Plumbing Code.
 - Repeal certain amendments to the 2012 Uniform Plumbing Code and/or California Building Standards not addressed by the model code that are no longer necessary.
 - Adopt new building standards or necessary amendments to the 2015 Uniform Plumbing Code that address inadequacies of the 2015 Uniform Plumbing Code as they pertain to California laws.
 - Bring forward previously existing California building standards or amendments, which represent no change in their effect from the 2013 California Building Standards Code.
 - Codify non-substantive editorial and formatting amendments from the format based upon the 2012 Uniform Mechanical Code to the format of the 2015 Uniform Plumbing Code.
-

[1. The SFM is proposing to make editorial changes to the Preface..]

**PREFACE
FORMAT OF THE UNIFORM PLUMBING CODE**

Chapter 6 Water Supply and Distribution.

Chapter 6 regulates the design, material and installation of water supply and distribution systems, including residential fire sprinklers. The water supply and distribution system is designed to achieve the correct water pressure and flow rates and avoid cross connections. For fixtures to perform properly, an acceptable supply of potable water is essential to their operation and use. Cross connections and backflow are ranked as the highest priority because of the long history of recognized health risks posed by cross connections, outbreaks, or cases of waterborne disease. Piping materials and components are evaluated for their possible effect on the potable water with which they are in contact. The intent is to control the potential adverse health effects produced by indirect additives, products, and materials that come in contact with potable water. When selecting materials for water supply and distribution systems, consider water pressure, water temperature, compatibility with the water supply, durability, support, and sustainability.

In addition, this chapter regulates the design, location, materials, and installation of multipurpose and stand-alone sprinkler systems that do not include the use of antifreeze. ~~Where systems are installed as a portion of the water distribution system under the requirements of this chapter and are not provided with a fire department connection,~~ Where permitted by Section 612.3.8, backflow protection for the water supply system is not required.

[1. The SFM is proposing to maintain the adoption of those existing California provisions contained Sections 1.1.0 through 1.1.12 with modification.]

**CHAPTER 1
CALIFORNIA ADMINISTRATION
DIVISION I**

1.1.0 General.

1.1.1 Title. *These regulations shall be known as the California Plumbing Code, may be cited as such and will be referred to herein as "this code." The California Plumbing Code is Part 5 of ~~twelvethirteen~~ parts of the official compilation and publication of the adoption, amendment, and repeal of building regulations to the California Code of Regulations, Title 24, also referred to as the California Building Standards Code. This part incorporates by adoption the ~~2012~~2015 Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials with necessary California amendments.*

1.1.2 Purpose. *The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation, and energy conservation; safety to life and property from fire and other hazards attributed to the built environment; and to provide safety to fire fighters and emergency responders during emergency operations.*

1.1.3 Scope. *The provisions of this code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout the State of California.*

1.1.3.1 Nonstate-Regulated Buildings, Structures, and Applications. Except as modified by local ordinance pursuant to Section 1.1.8, the following standards in the California Code of Regulations, Title 24, Parts 2, 2.5, 3, 4, 5, 6, 9, 10 and 11 shall apply to all occupancies and applications not regulated by a state agency.

1.1.3.2 State-Regulated Buildings, Structures, and Applications. The model code, state amendments to the model code, and/or state amendments where there are no relevant model code provisions shall apply to the following buildings, structures, and applications regulated by state agencies as specified in Section 1.2 through 1.14, except where modified by local ordinance pursuant to Section 1.1.8. When adopted by a state agency, the provisions of this code shall be enforced by the appropriate enforcing agency, but only to the extent of authority granted to such agency by the state legislature.

Note: See Preface to distinguish the model code provisions from the California provisions.

1. State-owned buildings, including buildings constructed by the Trustees of the California State University, and to the extent permitted by California laws, buildings designed and constructed by the Regents of the University of California, and regulated by the Building Standards Commission. See Section 1.2 for additional scope provisions.
2. Local detention facilities regulated by the Board of State and Community Corrections ~~Corrections Standards Authority~~. See Section 1.3 for additional scope provisions.
3. Barbering, cosmetology or electrolysis establishments, acupuncture offices, pharmacies, veterinary facilities, and structural pest control locations regulated by the Department of Consumer Affairs. See Section 1.4 for additional scope provisions.
4. ~~Energy efficiency standards regulated by the~~ Section 1.5 reserved for the California Energy Commission. ~~See Section 1.5 for additional scope provisions.~~
5. Dairies and places of meat inspection regulated by the Department of Food and Agriculture. See Section 1.6 for additional scope provisions.
6. Organized camps, laboratory animal quarters, public swimming pools, radiation protection, commissaries serving mobile food preparation vehicles and wild animal quarantine facilities regulated by the Department of Public Health. See Section 1.7 for additional scope provisions.
7. Hotels, motels, lodging houses, ~~apartment houses~~ apartments, dwellings, dormitories, condominiums, shelters for homeless persons, congregate residences, employee housing, factory-built housing and other types of dwellings containing sleeping accommodations with or without common toilets or cooking facilities. See Section 1.8.2.1.1 for additional scope provisions.
8. Accommodations for persons with disabilities in buildings containing newly constructed covered multifamily dwellings, new common use spaces serving existing covered multifamily dwellings, additions to existing buildings where the addition alone meets the definition of "COVERED MULTIFAMILY DWELLINGS," and new common-use ~~spaces~~ areas serving new covered multifamily dwellings which are regulated by the Department of Housing and Community Development. See Section 1.8.2.1.2 for additional scope provisions.
9. Permanent buildings and permanent accessory buildings or structures constructed within mobilehome parks and special occupancy parks regulated by the Department of Housing and Community Development. See Section 1.8.2.1.3 for additional scope provisions.
10. Reserved for the Division of the State Architect – Access Compliance.
11. Public elementary and secondary schools, community college buildings and state-owned or state leased essential service buildings regulated by the Division of the State Architect. See Section 1.9.2 for additional scope provisions.
12. Reserved for the State Historical Building Safety Board with the Division of the State Architect. See Section 1.9.2 for additional scope provisions.
13. General acute care hospitals, acute psychiatric hospitals, skilled nursing and/or intermediate care facilities, clinics licensed by the Department of Public Health and correctional treatment centers regulated

by the Office of Statewide Health Planning and Development. See Section 1.10 for additional scope provisions.

14. Applications regulated by the Office of State Fire Marshal include but are not limited to the following in accordance with Section 1.11:

1. Buildings or structures used or intended for use as an:

1.1. Asylum, jail, prison.

1.2. Mental hospital, hospital, home for the elderly, children's nursery, children's home or institution, school or any similar occupancy of any capacity.

1.3. Theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education.

1.4. Small family day care homes, large family day-care homes, residential facilities and residential facilities for the elderly, residential care facilities.

1.5. State institutions or other state-owned or state-occupied buildings.

1.6. High rise structures.

1.7. Motion picture production studios.

1.8. Organized camps.

1.9. Residential structures.

2. Tents, awnings or other fabric enclosures used in connection with any occupancy.

3. Fire alarm devices, equipment and systems in connection with any occupancy.

4. Hazardous materials, flammable and combustible liquids.

5. Public school automatic fire detection, alarm and sprinkler systems.

6. Wildland-urban interface fire areas.

15. Public libraries constructed and renovated using funds from the California Library Construction and Renovation Bond Act of 1988 and regulated by the State Librarian. See Section 1.12 for additional scope provisions.

16. ~~Section 1.13 reserved for Graywater systems regulated by the Department of Water Resources. See Section 1.13 for additional scope provisions.~~

17. For applications listed in Section 1.9.1 regulated by the Division of the State Architect – Access Compliance, outdoor environments and uses shall be classified according to accessibility uses described in Chapter 11A, 11B and 11C.

18. Marine Oil Terminals regulated by the California State Lands Commission. See Section 1.14 for additional scope provisions.

1.1.4 Appendices. Provisions contained in the appendices of this code shall not apply unless specifically adopted by a state agency or adopted by a local enforcing agency in compliance with Health and Safety Code Section 18901 et. seq. for Building Standards Law, Health and Safety Code Section 17950 for State Housing Law and Health and Safety Code Section 13869.7 for Fire Protection Districts. See Section 1.1.8 of this code.

1.1.5 Referenced Codes. The codes, standards and publications adopted and set forth in this code, including other codes, standards and publications referred to therein are, by title and date of publication, hereby adopted as standard reference documents of this code. When this code does not specifically cover any subject related to building design and construction, recognized architectural or engineering practices shall be employed. The National Fire Codes, standards, and the Fire Protection Handbook of the National Fire Protection Association are permitted to be used as authoritative guides in determining recognized fire prevention engineering practices.

1.1.6 Nonbuilding Standards, Orders and Regulations. Requirements contained in the Uniform Plumbing Code or in any other referenced standard, code or document, which are not building standards as defined in Health and Safety Code Section 18909, shall not be construed as part of the provisions of this code. For nonbuilding standards, orders, and regulations, see other titles of the California Code of Regulations.

1.1.7 Order of Precedence and Use.

1.1.7.1 Differences. In the event of any differences between these building standards and the standard reference documents, the text of these building standards shall govern.

1.1.7.2 Specific Provisions. Where a specific provision varies from a general provision, the specific provision shall apply.

1.1.7.3 Conflicts. When the requirements of this code conflict with the requirements of any other part of the California Building Standards Code, Title 24, the most restrictive requirements shall prevail.

Exception: Detached one-and two-family dwellings, efficiency dwelling units, lodging houses, live/work units, townhouses not more than three stories above grade plane with a separate means of egress, and their accessory structures, shall not be required to comply with the California Residential Code if constructed in accordance with the California Building Code.

1.1.8 City, County, or City and County Amendments, Additions or Deletions. The provisions of this code do not limit the authority of city, county, or city and county governments to establish more restrictive and reasonably necessary differences to the provisions contained in this code pursuant to complying with Section 1.1.8.1. The effective date of amendments, additions, or deletions to this code by a city, county, or city and county filed pursuant to Section 1.1.8.1 shall be the date filed. However, in no case shall the amendments, additions, or deletions to this code be effective any sooner than the effective date of this code.

Local modifications shall comply with Health and Safety Code Section 18941.5 for Building Standards Law, Health and Safety Code Section 17958 for State Housing Law or Health and Safety Code Section 13869.7 for Fire Protection Districts.

1.1.8.1 Findings and Filings.

(1) The city, county, or city and county shall make express findings for each amendment, addition, or deletion based upon climatic, topographical, or geological conditions.

Exception: Hazardous building ordinances and programs mitigating unreinforced masonry buildings.

(2) The city, county, or city and county shall file the amendments, additions, or deletions expressly marked and identified as to the applicable findings. Cities, counties, cities and counties, and fire departments shall file the amendments, additions, or deletions, and the findings with the California Building Standards Commission at 2525 Natomas Park Drive, Suite 130, Sacramento, CA 95833.

(3) Findings prepared by fire protection districts shall be ratified by the local city, county, or city and county and filed with the California Department of Housing and Community Development, Division of Codes and Standards, P.O. Box 1407, Sacramento, CA 95812-1407 or ~~1800 3rd Street, Room 260, Sacramento, CA 95814~~ 2020 West El Camino Avenue, Suite 250, Sacramento, CA 95833-1829.

1.1.8.2 Locally adopted energy standards – California Energy Code, Part 6

In addition to the provisions of Section 1.1.8.1 of this Part, the provisions of this section apply to cities, counties, and city and county amending adopted energy standards affecting buildings and structures subject to the California Energy Code, Part 6.

Applicable provisions of Public Resources Code Section 25402.1 and applicable provisions of Chapter 10 of the California Administrative Code, Part 1 apply to local amendment of energy standards adopted by the California Energy Commission.

1.1.9 Effective Date of This Code. Only those standards approved by the California Building Standards Commission that are effective at the time an application for building permit is submitted shall apply to the plans and specifications for, and to the construction performed under, that permit. For the effective dates of the provisions contained in this code, see the History Note page of this code.

1.1.10 Availability of Codes. At least one complete copy each of Titles 8, 19, 20, 24, and 25 with all revisions shall be maintained in the office of the building official responsible for the administration and enforcement of this code. Each state department concerned and each city, county, or city and county shall have an up-to-date copy of the code available for public inspection, See Health and Safety Code Sections 18942(d e)(1) and (2).

1.1.11 Format. This part fundamentally adopts the Uniform Plumbing Code by reference on a chapter-by-chapter basis. When a specific chapter of the Uniform Plumbing Code is not printed in the code and is marked "Reserved" such chapter of the Uniform Plumbing Code is not adopted as a portion of this code. When a specific chapter of the Uniform Plumbing Code is marked "Not adopted by the State of California" but appears in the code, it may be available for adoption by local ordinance.

Note: Matrix Adoption Tables at the front of each chapter may aid the code user in determining which chapter or sections within a chapter are applicable to buildings under the authority of a specific state agency, but they are not to be considered regulatory.

1.1.12 Validity. If any chapter, section, subsection, sentence, clause, or phrase of this code is for any reason held to be unconstitutional, contrary to statute, exceeding the authority of the state as stipulated by statutes or otherwise inoperative, such decision shall not affect the validity of the remaining portion of this code.

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[1.1. The SFM is proposing to maintain the adoption of those existing California provisions contained Sections 1.11.0 through 1.11.10 without modification.]

1.11.0 Office of the State Fire Marshal.

1.11.1 SFM– Office of the State Fire Marshal. Specific scope of application of the agency responsible for enforcement, the enforcement agency and the specific authority to adopt and enforce such provisions of this code, unless otherwise stated.

Application:

Institutional, Educational, or any Similar Occupancy. Any building or structure used or intended for use as an asylum, jail, mental hospital, hospital, sanitarium, home for the aged, children's nursery, children's home, school, or any similar occupancy of any capacity.

Authority Cited – Health and Safety Code Section 13143.

Reference – Health and Safety Code Section 13143.

Assembly or Similar Place of Assemblage. Any theater, dancehall, skating rink, auditorium, assembly hall, meeting hall, nightclub, fair building or similar place of assemblage where 50 or more persons may gather together in a building, room or structure for the purpose of amusement, entertainment, instruction, deliberation, worship, drinking or dining, awaiting transportation, or education.

Authority Cited – Health and Safety Code Section 13143.

Reference – Health and Safety Code Section 13143.

Small Family Day Care Homes.

Authority Cited – Health and Safety Code Sections 1597.45, 1597.54, 13143, and 17921.

Reference – Health and Safety Code Section 13143.

Large Family Day Care Homes.

Authority Cited - Health and Safety Code Sections 1597.46, 1597.54, and 17921.

Reference - Health and Safety Code Section 13143.

Residential Facilities and Residential Facilities for the Elderly.

Authority Cited - Health and Safety Code Section 13133.

Reference - Health and Safety Code Section 13143.

Any State Institution, Other State-Owned or State-Occupied Building.

Authority Cited – Health and Safety Code Section 13108.

Reference – Health and Safety Code Section 13143.

High-Rise Structures.

Authority Cited – Health and Safety Code Section 13211.

Reference – Health and Safety Code Section 13143.

Motion Picture Production Studios.

Authority cited – Health and Safety Code Section 13143.1.

Reference – Health and Safety Code Section 13143.

Organized Camps.

Authority Cited – Health and Safety Code Section 18897.3.

Reference – Health and Safety Code Section 13143.

Residential. All hotels, motels, lodging houses, apartment houses, and dwellings, including congregate residences and buildings and structures accessory thereto. Multiple-story structures existing on January 1, 1975, let for human habitation, including and limited to, hotels, motels and apartment houses, less than

75 feet (22 860 mm) above the lowest floor level having building access, wherein rooms used for sleeping are let above the ground floor.

Authority Cited – Health and Safety Code Sections 13143.2 and 17921.

Reference – Health and Safety Code Section 13143.

Residential Care Facilities. Certified family care homes, out-of-home placement facilities, halfway houses, drug and/or alcohol rehabilitation facilities and any building or structure used or intended for use as a home or institution for the housing of any person of any age when such person is referred to or placed within such home or institution for protective social care and supervision services by any governmental agency.

Authority Cited – Health and Safety Code Section 13143.6.

Reference – Health and Safety Code Section 13143.

Tents, Awnings, or other Fabric Enclosures Used in Connection with any Occupancy.

Authority Cited – Health and Safety Code Section 13116.

Reference – Health and Safety Code Section 13143.

Fire Alarm Devices, Equipment, and Systems in Connection with any Occupancy.

Authority Cited – Health and Safety Code Section 13114.

Reference – Health and Safety Code Section 13143.

Hazardous Materials.

Authority Cited – Health and Safety Code Section 13143.9.

Reference – Health and Safety Code Section 13143.

Flammable and Combustible Liquids.

Authority Cited – Health and Safety Code Section 13143.6.

Reference – Health and Safety Code Section 13143.

Public School Automatic Fire Detection, Alarm, and Sprinkler Systems.

Authority Cited – Health and Safety Code Section 13143 and California Education Code Article 7.5, Sections 17074.50, 17074.52, and 17074.54.

References – Government Code Section 11152.5, Health and Safety Code Section 13143 and California Education Code Chapter 12.5, Leroy F. Greene School Facilities Act of 1998, Article 1.

Wildland-Urban Interface Fire Area.

Authority Cited – Health and Safety Code Sections 13143, 13108.5(a), 18949.2(b), (c) and Government Code Section 51189.

References – Health and Safety Code Sections 13143, Government Code Sections 51176, 51177, 51178, and 51179 and Public Resources Code Sections 4201 through 4204.

1.11.2 Duties and Powers of the Enforcing Agency.

1.11.2.1 Enforcement.

1.11.2.1.1 *The responsibility for enforcement of building standards adopted by the State Fire Marshal and published in the California Building Standards Code relating to fire and panic safety and other regulations of the State Fire Marshal shall except as provided in Section 1.11.2.1.2 be as follows:*

(1) The city, county, or city and county with jurisdiction in the area affected by the standard or regulation shall delegate the enforcement of the building standards relating to fire and panic safety and other regulations of the State Fire Marshal as they relate to Group R-3 occupancies, as described in Section 310.1 of Part 2 of the California Building Standards Code, to either of the following:

- 1.1. The chief of the fire authority of the city, county, or city and county, or an authorized representative.*
- 1.2. The chief building official of the city, county, or city and county, or an authorized representative.*

(2) The chief of any city or county fire department or of any fire protection district, and authorized representatives, shall enforce within the jurisdiction the building standards and other regulations of the State Fire Marshal, except those described in Item 1 or 4.

(3) The State Fire Marshal shall have authority to enforce the building standards and other regulations of the State Fire Marshal in areas outside of corporate cities and districts providing fire protection services.

(4) The State Fire Marshal shall have authority to enforce the building standards and other regulations of the State Fire Marshal in corporate cities and districts providing fire protection services on request of the chief fire official or the governing body.

(5) Any fee charged pursuant to the enforcement authority of this section shall not exceed the estimated reasonable cost of providing the service for which the fee is charged pursuant to Section 66014 of the Government Code.

1.11.2.1.2 *Pursuant to Health and Safety Code Section 13108, and except as otherwise provided in this section, building standards adopted by the State Fire Marshal published in the California Building Standards Code relating to fire and panic safety shall be enforced by the State Fire Marshal in all state-owned buildings, state-occupied buildings, and state institutions throughout the state. Upon the written request of the chief fire official of any city, county or fire protection district, the State Fire Marshal may authorize such chief fire official and his or her authorized representatives, in their geographical area of responsibility, to make fire prevention inspections of state-owned or state-occupied buildings, other than state institutions, for the purpose of enforcing the regulations relating to fire and panic safety adopted by the State Fire Marshal pursuant to this section and building standards relating to fire and panic safety published in the California Building Standards Code. Authorization from the State Fire Marshal shall be limited to those fire departments or fire districts which maintain a fire prevention bureau staffed by paid personnel.*

Pursuant to Health and Safety Code Section 13108, any requirement or order made by any chief fire official who is authorized by the State Fire Marshal to make fire prevention inspections of state owned or state-occupied buildings, other than state institutions, may be appealed to the State Fire Marshal. The State Fire Marshal shall, upon receiving an appeal and subject to the provisions of Chapter 5 (commencing with Section 18945) of Part 2.5 of Division 13 of the Health and Safety Code, determine if the requirement or order made is reasonably consistent with the fire and panic safety regulations adopted by the State Fire Marshal and building standards relating to fire and panic safety published in the California Building Code.

Any person may request a code interpretation from the State Fire Marshal relative to the intent of any regulation or provision adopted by the State Fire Marshal. When the request relates to a specific project, occupancy or building, the State Fire Marshal shall review the issue with the appropriate local enforcing agency prior to rendering such code interpretation.

1.11.2.1.3 *Pursuant to Health and Safety Code Section 13112, any person who violates any order, rule or regulation of the State Fire Marshal is guilty of a misdemeanor punishable by a fine of not less than*

\$100.00 or more than \$500.00, or by imprisonment for not less than six months, or by both. A person is guilty of a separate offense each day during which he or she commits, continues or permits a violation of any provision of, or any order, rule or regulation of, the State Fire Marshal as contained in this code. Any inspection authority who, in the exercise of his or her authority as a deputy State Fire Marshal, causes any legal complaints to be filed or any arrest to be made shall notify the State Fire Marshal immediately following such action.

1.11.2.2 Right of Entry. *The fire chief of any city, county, or fire protection district, or such person's authorized representative, may enter any state institution or any other state-owned or state-occupied building for the purpose of preparing a fire suppression preplanning program or for the purpose of investigating any fire in a state-occupied building.*

The State Fire Marshal, his or her deputies or salaried assistants, the chief of any city or county fire department or fire protection district and his or her authorized representatives may enter any building or premises not used for dwelling purposes at any reasonable hour for the purpose of enforcing this chapter. The owner, lessee, manager or operator of any such building or premises shall permit the State Fire Marshal, his or her deputies or salaried assistants and the chief of any city or county fire department or fire protection district and his or her authorized representatives to enter and inspect them at the time and for the purpose stated in this section.

1.11.2.3 More Restrictive Fire and Panic Safety Building Standards.

1.11.2.3.1 *Any fire protection district organized pursuant to Health and Safety Code Part 2.7 (commencing with Section 13800) of Division 12 may adopt building standards relating to fire and panic safety that are more stringent than those building standards adopted by the State Fire Marshal and contained in the California Building Standards Code. For these purposes, the district board shall be deemed a legislative body and the district shall be deemed a local agency. Any changes or modifications that are more stringent than the requirements published in the California Building Standards Code relating to fire and panic safety shall be subject to Section 1.1.8.1.*

1.11.2.3.2 *Any fire protection district that proposes to adopt an ordinance pursuant to this section shall, not less than 30 days prior to noticing a proposed ordinance for public hearing, provide a copy of that ordinance, together with the adopted findings made pursuant to Section 1.11.2.3.1, to the city, county, or city and county where the ordinance will apply. The city, county, or city and county may provide the district with written comments, which shall become part of the fire protection district's public hearing record.*

1.11.2.3.3 *The fire protection district shall transmit the adopted ordinance to the city, county, or city and county where the ordinance will apply. The legislative body of the city, county, or city and county may ratify, modify or deny an adopted ordinance and transmit its determination to the district within 15 days of the determination. Any modification or denial of an adopted ordinance shall include a written statement describing the reasons for any modifications or denial. No ordinance adopted by the district shall be effective until ratification by the city, county, or city and county where the ordinance will apply. Upon ratification of an adopted ordinance, the city, county, or city and county shall file a copy of the findings of the district, and any findings of the city, county, or city and county, together with the adopted ordinance expressly marked and identified to which each finding refers, in accordance with Section 1.1.8.1, Item 3.*

1.11.2.4 Request for Alternate Means of Protection. *Requests for approval to use an alternative material, assembly or materials, equipment, method of construction, method of installation of equipment or means of protection shall be made in writing to the enforcing agency by the owner or the owner's authorized representative and shall be accompanied by a full statement of the conditions. Sufficient evidence or proof shall be submitted to substantiate any claim that may be made regarding its conformance. The enforcing agency may require tests and the submission of a test report from an*

approved testing organization as set forth in Title 19, California Code of Regulation, to substantiate the equivalency of the proposed alternative means of protection.

When a request for alternate means of protection involves hazardous materials, the authority having jurisdiction may consider implementation of the findings and recommendations identified in a Risk Management Plan (RMP) developed in accordance with Title 19, Division 2, Chapter 4.5, Article 3.

Approval of a request for use of an alternative material, assembly of materials, equipment, method of construction, method of installation of equipment, or means of protection made pursuant to these provisions shall be limited to the particular case covered by request and shall not be construed as establishing any precedent for any future request.

1.11.2.5 Appeals. When a request for an alternate means of protection has been denied by the enforcing agency, the applicant may file a written appeal to the State Fire Marshal for consideration of the applicant's proposal. In considering such appeal, the State Fire Marshal may seek the advice of the State Board of Fire Services. The State Fire Marshal shall, after considering all of the facts presented, including any recommendations of the State Board of Fire Services, determine if the proposal is for the purposes intended, at least equivalent to that specified in these regulations in quality, strength, effectiveness, fire resistance, durability and safety, and shall transmit such findings and any recommendations to the applicant and to the enforcing agency.

1.11.3 Construction Documents.

1.11.3.1 Public Schools. Plans and specifications for the construction, alteration, or addition to any building owned, leased, or rented by any public school district shall be submitted to the Division of the State Architect.

1.11.3.2 Movable Walls and Partitions. Plans or diagrams shall be submitted to the enforcing agency for approval before the installation of, or rearrangement of, any movable wall or partition in any occupancy. Approval shall be granted only if there is no increase in the fire hazard.

1.11.3.3 New Construction High-Rise Buildings.

(1) Complete plans or specifications, or both, shall be prepared covering all work required to comply with new construction high-rise buildings. Such plans and specifications shall be submitted to the enforcing agency having jurisdiction.

(2) All plans and specifications shall be prepared under the responsible charge of an architect or a civil or structural engineer authorized by law to develop construction plans and specifications, or by both such architect and engineer. Plans and specifications shall be prepared by an engineer duly qualified in that branch of engineering necessary to perform such services. Administration of the work of construction shall be under the charge of the responsible architect or engineer except that where plans and specifications involve alterations or repairs, such work of construction may be administered by an engineer duly qualified to perform such services and holding a valid certificate under Chapter 7 (commencing with Section 65700) of Division 3 of the Business and Professions Code for performance of services in that branch of engineering in which said plans, specifications and estimates and work of construction are applicable.

This section shall not be construed as preventing the design of fire-extinguishing systems by persons holding a C-16 license issued pursuant to Division 3, Chapter 9, Business and Professions Code. In such instances, however, the responsibility charge of this section shall prevail.

1.11.3.4 Existing High-Rise Buildings.

(1) Complete plans or specifications, or both, shall be prepared covering all work required by Section 3412 for existing high-rise buildings. Such plans or specifications shall be submitted to the enforcing agency having jurisdiction.

(2) When new construction is required to conform with the provisions of these regulations, complete plans or specifications, or both, shall be prepared in accordance with the provisions of this subsection. As used in this section, "new construction" is not intended to include repairs, replacements or minor alterations which do not disrupt or appreciably add to or affect the structural aspects of the building.

1.11.3.5 Retention of Plans. Refer to Building Standards Law, Health and Safety Code Sections 19850 and 19851 for permanent retention of plans.

1.11.4 Fees.

1.11.4.1 Other Fees. Pursuant to Health and Safety Code Section 13146.2, a city, county, or district which inspects a hotel, motel, lodging house, or apartment house may charge and collect a fee for the inspection from the owner of the structure in an amount, as determined by the city, county or district, sufficient to pay its costs of that inspection.

1.11.4.2 Large Family Day Care. Pursuant to Health and Safety Code Section 1597.46, Large Family Day Care Homes, the local government shall process any required permit as economically as possible, and fees charged for review shall not exceed the costs of the review and permit process.

1.11.4.3 High-Rise. Pursuant to Health and Safety Code Section 13217, High-rise Structure Inspection: Fees and costs, a local agency which inspects a high-rise structure pursuant to Health and Safety Code Section 13217 may charge and collect a fee for the inspection from the owner of the high-rise structure in an amount, as determined by the local agency, sufficient to pay its costs of that inspection.

1.11.4.4 Fire Clearance Preinspection. Pursuant to Health and Safety Code Section 13235, Fire Clearance Preinspection, fee, upon receipt of a request from a prospective licensee of a community care facility, as defined in Section 1502, of a residential care facility for the elderly, as defined in Section 1569.2, or of a child day care facility, as defined in Section 1596.750, the local fire enforcing agency, as defined in Section 13244, or State Fire Marshal, whichever has primary jurisdiction, shall conduct a preinspection of the facility prior to the final fire clearance approval. At the time of the preinspection, the primary fire enforcing agency shall price consultation and interpretation of the fire safety regulations and shall notify the prospective licensee of the facility in writing of the specific fire safety regulations which shall be enforced in order to obtain fire clearance approval. A fee of not more than \$50.00 may be charged for the preinspection of a facility with a capacity to serve 25 or fewer persons. A fee of not more than \$100.00 may be charged for a preinspection of a facility with a capacity to serve 26 or more persons.

1.11.4.5 Care Facilities. The primary fire enforcing agency shall complete the final fire clearance inspection for a community care facility, residential care facility for the elderly, or child day care facility within 30 days of receipt of the request for the final inspection, or as of the date the prospective facility requests the final preclearance inspection by the State Department of Social Services, whichever is later.

Pursuant to Health and Safety Code Section 13235, a preinspection fee of not more than \$50.00 may be charged for a facility with a capacity to serve 25 or less clients. A fee of not more than \$100.00 may be charged for a preinspection of a facility with a capacity to serve 26 or more clients.

Pursuant to Health and Safety Code Section 13131.5, a reasonable final inspection fee, not to exceed the actual cost of inspection services necessary to complete a final inspection may be charged for occupancies classified as Residential Care Facilities for the Elderly (RCFE).

Pursuant to Health and Safety Code Section 1569.84, neither the State Fire Marshal nor any local public entity shall charge any fee for enforcing fire inspection regulations pursuant to state law or regulation or local ordinance, with respect to Residential Care Facilities for the Elderly (RCFE) which service six or fewer persons.

1.11.4.6 Requests of the Office of the State Fire Marshal. Whenever a local authority having jurisdiction requests that the State Fire Marshal perform plan review and/or inspection services related to a building permit, the applicable fees for such shall be payable to the Office of the State Fire Marshal.

1.11.5 Inspections. Work performed subject to the provisions of this code shall comply with the inspection requirements of Title 24, Part 2, California Building Standards Code, Sections 109.1, 109.3, 109.3.4, 109.3.5, 109.3.6, 109.3.8, 109.3.9, 109.3.10, 109.5, and 109.6 as adopted by the Office of the State Fire Marshal.

1.11.5.1 Existing Group I-1 or R Occupancies. Licensed 24-hour care in a Group I-1 or R occupancy in existence and originally classified under previously adopted state codes shall be reinspected under the appropriate previous code, provided there is no change in the use or character which would place the facility in a different occupancy group.

1.11.6 Certificate of Occupancy. A Certificate of Occupancy shall be issued as specified in Title 24, Part 2, California Building Code, Section 111.

Exception: Group R, Division 3 and Group U occupancies.

1.11.7 Temporary Structures and Uses. See Title 24, Part 2, California Building Code, Section 107.

1.11.8 Service Utilities. See Title 24, Part 2, California Building Code, Section 112.

1.11.9 Stop Work Order. See Title 24, Part 2, California Building Code, Section 115.

1.11.10 Unsafe Buildings, Structures, and Equipment. See Title 24, Part 2, California Building Code, Section 116.

Notation:

Authority: Health and Safety Code Sections 1250, 1569.72, 1569.78, 1568.02, 1502, 1597.44, 1597.45, 1597.46, 1597.54, 1597.65, 13108, 13108.5, 13114, 13143, 13143.2, 13143.6, 13146, 17921, 18949.2, Government Code Section 51189

References: Health and Safety Code Sections 13143, 18949.2, Government Code Sections 51176, 51177, 51178, 51179, Public Resources Code Sections 4201 through 4204

[1.2. The SFM proposes to not adopt UPC Chapter 1. (UPC Chapter 1 Administrative provisions - Sections 101 through 117 relocated to Division II of Chapter 1.)]

DIVISION II

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[2. The SFM proposes to adopt Chapter 2 without amendments.]

CHAPTER 2 DEFINITIONS

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[3. The SFM proposes to adopt Chapter 3 with the following existing amendments and California regulations.]

CHAPTER 3 GENERAL REGULATIONS

310.11 [SFM] *For applications listed in Section 1.11 regulated by the Office of the State Fire Marshal, plastic piping shall not be exposed as a portion of the interior room finish in a building or structure if the piping has a flame-spread rating exceeding 75 when tested in accordance with ASTM E 84- 77a, "Test for Surface Burning Characteristics of Building Materials."*

312.7 Fire-Resistant Construction. Piping penetrations of fire-resistance-rated walls, partitions, floors, floor/ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the *California Building Code* and Chapter 14, "Firestop Protection."

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[4. The SFM proposes to not adopt Chapter 4.]

CHAPTER 4 PLUMBING FIXTURES AND FIXTURE FITTINGS

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[5. The SFM proposes to adopt Chapter 5 with the following existing amendments and California regulations.]

CHAPTER 5 WATER HEATERS

507.2 Seismic Provisions. ~~In seismic design categories C, D, E, and F, water heaters shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strapping shall be at points within the upper one third and lower one third of its vertical dimensions. At the lower point, a distance of not less than 4 inches (102 mm) shall be maintained from the controls with the strapping.~~ *Water heaters shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strapping shall be at points within the upper one third (1/3) and lower one-third (1/3) of its vertical dimensions. At the lower*

point, a minimum distance of four (4) inches (102 mm) shall be maintained above the controls with the strapping.

Note: The applicable subsection of Health and Safety Code Section 19211(a) which addresses new, replacement, and existing water heaters is repeated here for clarity and reads as follows:

Section 19211(a) Notwithstanding Section 19100, all new and replacement water heaters, and all existing residential water heaters shall be braced, anchored, or strapped to resist falling or horizontal displacement due to earthquake motion. At a minimum, any water heater shall be secured in accordance with the California Plumbing Code, or modifications made thereto by a city county, or city and county pursuant to Section 17958.5.

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[6. The SFM proposes to adopt Section 603.5.14 and Section 612 of Chapter 6 with the following existing amendments and California regulations.]

CHAPTER 6 WATER SUPPLY AND DISTRIBUTION

603.5.14 Protection from Fire Systems. ~~Except as provided under Section 603.5.14.1 and Section 603.5.14.2, potable water supplies to fire protection systems that are normally under pressure, including but not limited to standpipes and automatic sprinkler systems, except in one or two family or townhouse residential sprinkler systems, piped in materials approved for potable water distribution systems shall be protected from backpressure and back siphonage by one of the following testable devices:~~

- ~~(1) Double check valve backflow prevention assembly (DC)~~
- ~~(2) Double check detector fire protection backflow prevention assembly~~
- ~~(3) Reduced pressure principle backflow prevention assembly (RP)~~
- ~~(4) Reduced pressure detector fire protection backflow prevention assembly~~

~~Potable water supplies to fire protection systems that are not normally under pressure shall be protected from backflow and shall be in accordance with the requirements of the appropriate standards referenced in Table 1701.1.~~

Note: *Fire Protection Systems has not been adopted by the State Fire Marshal. This section cannot be adopted or enforced pursuant to California Health and Safety Code 13114.7(a), which is being cited for reference. California Health and Safety Code 13114.7*

(a) For the purposes of this section the following are definitions of class I and class II systems:

- (1) American Water Works Association (A.W.W.A) Manual No. M-14 class 1 – Automatic fire sprinkler systems with direct connection from public water mains only; no pumps, tanks, or reservoirs; no physical connection from other water supplies; no antifreeze or additives of any kind; and all sprinkler drains discharging to the atmosphere or other safe outlets.*
- (2) American Water Works Association (A.W.W.A) Manual No. M-14 class 2 – Automatic fire sprinkler systems which are the same as class 1, except that booster pumps may be installed in the connections from the street mains.*

(b) Automatic fire sprinkler systems described in subdivision (a) shall not required any backflow protection equipment at the service connection other than required by standards for those systems contained in the publication of the National Fire Protection Association entitled "Installation of Sprinkler Systems" (NFPA Pamphlet No. 13, 1980 edition)

~~**603.5.14.1 Fire Department Connection.** Where fire protection systems supplied from a potable water system include a fire department (siamese) connection that is located less than 1700 feet (518.2 m) from a nonpotable water source that is capable of being used by the fire department as a secondary water supply, the potable water supply shall be protected by one of the following:~~

- ~~(1) Reduced pressure principle backflow prevention assembly (RP)~~
- ~~(2) Reduced pressure detector fire protection backflow prevention assembly~~

~~Nonpotable water sources include fire department vehicles carrying water of questionable quality or water that is treated with antifreeze, corrosion inhibitors, or extinguishing agents.~~

~~**603.5.14.2 Chemicals.** Where antifreeze, corrosion inhibitors, or other chemicals are added to a fire protection system supplied from a potable water supply, the potable water system shall be protected by one of the following:~~

- ~~(1) Reduced pressure principle backflow prevention assembly (RP)~~
- ~~(2) Reduced pressure detector fire protection backflow prevention assembly~~

~~**603.5.14.3 Hydraulic Design.** Where a backflow device is installed in the potable water supply to a fire protection system, the hydraulic design of the system shall account for the pressure drop through the backflow device. Where such devices are retrofitted for an existing fire protection system, the hydraulics of the sprinkler system design shall be checked to verify that there will be sufficient water pressure available for satisfactory operation of the fire sprinklers.~~

612.2 Types of Systems. This section shall apply to stand-alone and multipurpose wet-pipe sprinkler systems that do not include the use of antifreeze. A multipurpose fire sprinkler system shall provide potable water to both fire sprinklers and plumbing fixtures. A stand-alone sprinkler system shall be separate and independent from the potable water distribution system. ~~A backflow preventer shall not be required to separate a stand-alone sprinkler system from the water distribution system where the sprinkler system material is in accordance with the requirements of Section 604.0.~~

612.3.1 Required Sprinkler Locations. Sprinklers shall be installed to protect all floor areas of a dwelling unit in one and two family dwellings or townhouses.

Exceptions:

- (1) Attics, crawl spaces, and normally unoccupied concealed spaces that do not contain fuel-fired appliances do not require sprinklers. In attics, crawl spaces, and normally unoccupied concealed spaces that contain fuel-fired equipment, a sprinkler shall be provided to protect the equipment; however, sprinklers shall not be required in the remainder of the space.
- (2) Clothes closets, linen closets, and pantries that do not exceed 24 square feet (2.2 m²) in area, with the smallest dimension not exceeding 3 feet (914 mm) and having wall and ceiling surfaces of gypsum board.
- (3) Bathrooms and toilet rooms that do not exceed 55 square feet (5.1 m²) in area.
- (4) Detached Garages; carports with no habitable space above; open attached exterior porches; unheated entry areas, such as mud rooms, that are adjacent to an exterior door; and similar areas.
- (5) Covered unheated projections of the building at entrances/exits provided it is not the only means of egress from the dwelling unit.
- (6) Ceiling pockets that meet the following requirements:(a) The total volume of an unprotected ceiling pocket does not exceed 100 cubic feet (2.83 m³).

- (b) The entire floor under the unprotected ceiling pocket is protected by the sprinklers at the lower ceiling elevation.
- (c) Each unprotected ceiling pocket is separated from an adjacent unprotected ceiling pocket by not less than a 10 feet (3048 mm) horizontal distance.
- (d) The interior finish of the unprotected ceiling pocket is noncombustible material.
- (e) Skylights not exceeding 32 square feet (2.97 m²).

612.3.4 Freezing Areas. The piping system shall be protected in accordance with the requirements of Chapter 3. Where sprinklers are required in areas that are subject to freezing, dry-sidewall or dry-pendent sprinklers extending from a non-freezing area into a freezing area shall be installed. Where fire sprinkler piping cannot be adequately protected against freezing, the system shall be designed and installed in accordance with NFPA 13D.

612.3.8 Backflow protection. A backflow preventer shall not be required to separate a sprinkler system from the water distribution system, provided that:

1. The system complies with NFPA 13D or Section R313, and
2. Piping material are suitable for potable water in accordance with the California Plumbing Code, and
3. The system does not contain antifreeze or have a fire department connection.

612.5.1 Determining System Design Flow. The sizing of the sprinkler piping system shall be based on the flow rate and pressure of each sprinkler in accordance with Section 612.5.1.1 and the number of sprinklers in accordance with Section 612.5.1.2. 612.5.1.3.

612.5.1.3 Fire Sprinklers Attached garages, and carports with habitable space above. Attached garages, and carports with habitable space above shall be protected by fire sprinklers in accordance with this Section and Section R313. Protection shall be provided in accordance with one of the following:

1. Residential Sprinklers installed in accordance with their listing.
2. Extended Coverage sprinklers discharging water not less than their listed flow rate for Light Hazard in accordance with NFPA 13.
3. Quick-Response spray sprinklers at light hazard spacing in accordance with NFPA 13 designed to discharge at 0.05 gpm/ft² density (minimum).

The system demand shall be permitted to be limited to the number of sprinklers in the compartment but shall not exceed two sprinklers for hydraulic calculation purposes. Garage doors shall not be considered obstructions and shall be permitted to be ignored for placement and calculation of sprinklers.

612.5.2 Sprinkler Pipe Water Supply. The water supply for a multipurpose or stand alone sprinkler system shall be provided by the public water main, private water main, private well system, or storage tank. The water supply required shall be determined in accordance with Section 612.5.1.2 at a pressure not less than that used in accordance with Section 612.5.3. Where a water supply serves both domestic and fire sprinkler systems, 5 gpm (19 L/min) shall be added to the sprinkler system demand at the point where the systems are connected, to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler.

612.5.2.1 Water Pressure from Individual Sources. Where a dwelling unit water supply is from a tank system, a private well system, a pump, or a combination of these, the available water pressure shall be based on the minimum pressure control setting of the pump.

612.5.2.2 Required Capacity. The water supply shall have the capacity to provide the required flow rate to the sprinklers for a period of time as follows:

(1) Seven minutes for one story dwelling units less than 2000 square feet (185.81 m²) in area. For the purpose of determining the area of the dwelling unit, the area of attached garages and attached open carports, porches, balconies and patios shall not be included.

(2) Ten minutes for multi-level dwelling units and one story dwelling units not less than 2000 square feet (185.81 m²) in area. For the purpose of determining the area of the dwelling unit, the area of attached garages and attached open carports, porches, balconies, and patios shall not be included.

Where a well system, a water supply tank system, a pump, or a combination thereof is used the water supply shall serve both domestic and fire sprinkler systems. A combination of well capacity and tank storage shall be permitted to meet the capacity requirement.

Notation:

Authority: Health and Safety Code Sections 13108, 13114.7, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[7. The SFM proposes to not adopt Chapters 7 through 11 without amendment.]

**CHAPTER 7
SANITARY DRAINAGE**

**CHAPTER 8
INDIRECT WASTES**

**CHAPTER 9
VENTS**

**CHAPTER 10
TRAPS AND INTERCEPTORS**

**CHAPTER 11
STORM DRAINAGE**

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[8. The SFM proposes to adopt Chapter 12 with the following existing amendments and California regulations.]

**CHAPTER 12
FUEL PIPING**

1211.6 Electrical Connections. Electrical connections between wiring and electrically operated control devices in a piping system shall comply with the requirements of ~~NEPA-79~~ *California Electrical Code*.

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[9. The SFM proposes to adopt Chapter 13 without amendments.]

**CHAPTER 13
HEALTH CARE FACILITIES AND MEDICAL GAS AND VACUUM SYSTEMS**

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[10. The SFM proposes to not adopt Chapters 14 without amendments.]

**CHAPTER 14
FIRESTOP PROTECTION**

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[11. The SFM proposes to not adopt Chapters 15 and 16.]

**CHAPTER 15
ALTERNATE WATER SOURCES FOR NONPOTABLE**

**CHAPTER 16
NONPOTABLE RAINWATER CATCHMENT SYSTEMS**

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[12. The SFM proposes to adopt Chapter 17 without amendments]

**CHAPTER 17
MANDATORY REFERENCED STANDARDS - TABLE 1701.1**

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[13. The SFM proposes to not adopt Appendices A through L]

**APPENDIX A
RECOMMENDED RULES FOR SIZING THE WATER SUPPLY SYSTEM**

**APPENDIX B
EXPLANATORY NOTES ON COMBINATION WASTE AND VENT SYSTEMS**

**APPENDIX C
ALTERNATE PLUMBING SYSTEMS**

**APPENDIX D
SIZING STORMWATER DRAINAGE SYSTEMS**

**APPENDIX E
MANUFACTURED/MOBILE HOME PARKS AND RECREATIONAL VEHICLE PARKS**

**APPENDIX F
FIREFIGHTER BREATHING AIR REPLENISHMENT SYSTEMS**

**APPENDIX G
SIZING OF VENTING SYSTEMS**

**APPENDIX H
PRIVATE SEWAGE DISPOSAL SYSTEMS**

**APPENDIX I
INSTALLATION STANDARDS**

**Installation Standard
For
ABS BUILDING DRAIN, WASTE AND VENT PIPE AND FITTINGS
IAPMO IS 5-2006**

2.2.6 Piping Installed in Fire Resistive Construction. All piping penetrations of fire resistance rated walls, partitions, floors, floor/ ceiling assemblies, roof/ceiling assemblies, or shaft enclosures shall be protected in accordance with the requirements of the *California Building Code and IAPMO Installation Standards*, and Chapter 14 "Firestop Protection for DWV and Stormwater Applications". [UPC 313.7]

**APPENDIX J
COMBINATION OF INDOOR AND OUTDOOR COMBUSTION AND VENTILATION OPENING DESIGN**

**APPENDIX K
POTABLE RAINWATER CATCHMENT SYSTEMS**

**APPENDIX L
SUSTAINABLE PRACTICES**

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

[14. The SFM proposes to not adopt Appendices for Useful Tables]

USEFUL TABLES

Notation:

Authority: Health and Safety Code Sections 13108, 13143, 13143.9, 13146, 17921, 18949.2

References: Health and Safety Code Sections 13143, 18949.2

