

**45-DAY 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 Repealed text: All such language appears in ~~strikeout~~.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

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**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 5<sup>th</sup> 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 ...

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### 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><del>Stephen Jensen</del> <u>Elley Klausbruckner</u></i>	<i><del>Rose Conroy</del> <u>Cheryl Roberts</u></i>
<i><del>Randy Twist</del> <u>Larry Booth</u></i>	<i><del>Sheila Lee</del> <u>David Malcolm Carson</u></i>
<i><del>Richard Sawhill</del></i>	<i><del>Richard Sierra</del></i>
<i><del>Kent Sasaki</del></i>	<i><del>Steven Winkel</del></i>
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<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 11C.*

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 95811~~ 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.**

~~1.2.3~~ **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.

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**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.~~

**1.13.2 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.

**1.13.3 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]

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**205.0**

**-C-**

...

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

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**206.0**

**-D-**

....

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

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**207.0** -E-

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**Enforcing Agency [BSC].** *“Enforcing Agency” is the designated department or ...*

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**209.0** -G-

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**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 ...~~

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**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 ...*~~

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**217.0** -O-

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~~**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 ...~~

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**220.0** -R-

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~~**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 ...~~

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**221.0** -S-

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~~**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 ...~~

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**222.0** -T-

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

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**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.*

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**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...*

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**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).**

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#### **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 FACILITIES<sup>1</sup>**

Each building shall be provided with sanitary facilities, including provisions for persons with disabilities as prescribed by the Department Having Jurisdiction<sup>4,7</sup>. 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 <sup>2</sup>	WATER CLOSETS (FIXTURES PER PERSON) <sup>3</sup>	URINALS (FIXTURES PER PERSON)	LAVATORIES (FIXTURES PER PERSON)	BATHTUBS OR SHOWERS (FIXTURES PER PERSON)	DRINKING FOUNTAINS/FACILITIES (FIXTURES PER PERSON)	OTHER
...	...	...	...	...	...	...

**Notes:**

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

<sup>2</sup> 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.

<sup>3</sup> 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.*

<sup>4</sup> 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.

<sup>5</sup> 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.

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

<sup>4,7</sup> **[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]**

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

<b>Group A</b>	
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
<b>Group B</b> Office or public buildings (area accessible to the public)	200
<b>Group E</b> Schools for daycare, elementary, secondary	50
<b>Educational Facilities Other than Group E</b> Colleges, universities, adult center, etc	50
<b>Group F</b> Workshop, foundries and similar establishments	2,000
<b>Group H</b> Hazardous materials fabrication and storage	2,000
<b>Group I</b> Hospital general use area, Health Care facilities	200
<b>Group M</b> Retail or Wholesale stores	200
<b>Group R</b> Congregate residence, Group R-1	200
<b>Group S</b> 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 <sup>1</sup>	--	ASTM D2239, ASTM D2737, ASTM D3035, AWWA C901, CSA B137.1	ASTM D2609, ASTM D2683, ASTM D3261, ASTM F1055, CSA B137.1
...	...	...	...	...
PEX <sup>2,3</sup>	X	X	ASTM F876, ASTM F877, CSA B137.5, AWWA C904 <sup>1</sup>	ASSE 1061, ASTM F877, ASTM F1807, ASTM F1960, ASTM F1961, ASTM F2080, ASTM F2159, ASTM F2735, CSA B137.5
PEX-AL-PEX <sup>4</sup>	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 <sup>1</sup>	--	ASTM D1785, ASTM D2241, AWWA C900	ASTM D2464, ASTM D2466, ASTM D2467, ASTM F1970
...	...	...	...	...

<sup>1</sup> For building supply or cold-water applications.

<sup>2</sup> 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.

<sup>3</sup> 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.

<sup>4</sup> [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 1501.5 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
-------------	-------------------

Inspect and clean filters and screens, and replace (where necessary).	<i>In accordance with manufacturer's instructions, and/or the Authority Having Jurisdiction, or <del>E</del>very 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 <del>A</del>fter 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 <del>A</del>fter 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 <del>A</del>fter 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 <del>A</del>fter 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 <del>A</del>fter 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 <del>A</del>fter initial installation and every 12 months thereafter.</i>
*The cross-connection test shall be performed in the presence of the Authority Having Jurisdiction in accordance with the requirements of this chapter, <i>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 ~~4602.8~~ 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**

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

For SI units: 1 foot = 304.8 mm

**Notes:**

- <sup>1</sup> *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.*
- <sup>2</sup> *The distance shall be permitted to be reduced to 0 feet for aboveground tanks where first approved by the Authority Having Jurisdiction.*
- <sup>3</sup> *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.*
- <sup>4</sup> *Where special hazards are involved, the distance required shall be increased as directed by the Authority Having Jurisdiction.*
- <sup>5</sup> *These minimum clear horizontal distances shall apply between the irrigation or disposal field and the ocean mean higher high tide line.*
- <sup>6</sup> *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.*
- <sup>7</sup> *For parallel construction or for crossings, approval by the Authority Having Jurisdiction shall be required.*
- <sup>8</sup> *The distance shall be permitted to be reduced to 1 1/2 feet (457 mm) for drip and mulch basin irrigation systems.*
- <sup>9</sup> *The distance shall be permitted to be reduced to 0 feet for surge tanks of 75 gallons (284 L) or less.*
- <sup>10</sup> *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 m<sup>2</sup>, 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 ( $\mu$ ) (1200  $\mu\text{m}$ ) 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 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 (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 <sup>1</sup>	1	-
Length of each perforated line <sup>1</sup>	-	100 feet
Bottom width of trench <sup>1</sup>	12 inches	<del>18</del> 24 inches
Spacing of lines, center to center <sup>1</sup>	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 <sup>1</sup>	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

<sup>1</sup> *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  $\mu$ m) 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 water* ...

**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 4604.0 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**

<b>Application</b>	<b>Minimum Treatment</b>	<b>Minimum Water Quality</b>
<i>Car washing</i>	<ul style="list-style-type: none"> <li>• <del>Debris excluder or other approved means in compliance with Section 1702.9.10</del></li> <li>• <del>100 Micron (100 µm) in compliance with Section 1702.9.11 for drip irrigation</del></li> </ul>	N/A
<i>Surface, subsurface and drip irrigation</i>	<ul style="list-style-type: none"> <li>• <del>Debris excluder or other approved means in compliance with Section 1702.9.10</del></li> <li>• <del>100 Micron (100 µm) in compliance with Section 1702.9.11 for drip irrigation</del></li> </ul>	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"> <li>• <del>Debris excluder or other approved means in compliance with Section 1702.9.10</del></li> </ul>	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"> <li>• <del>Debris excluder or other approved means in compliance with Section 1702.9.10</del></li> </ul>	<ul style="list-style-type: none"> <li>• <del>Escherichia coli: &lt; 100 CFU/100 mL</del></li> <li>• <del>Turbidity: &lt; 10 NTU</del></li> </ul>
<i>Urinal and water closet flushing, clothes washing, and</i>	<ul style="list-style-type: none"> <li>• <del>Debris excluder or other approved means in</del></li> </ul>	<ul style="list-style-type: none"> <li>• <del>Escherichia coli: &lt; 100 CFU/100 mL</del></li> </ul>

<i>trap priming</i>	<i>compliance with Section 1702.9.10</i> • <i>100 Micron (100 μm) in compliance with Section 1702.9.11</i>	• <i>Turbidity: &lt; 10 NTU</i>
<i>Ornamental fountains and other water features</i>	• <i>Debris excluder or other approved means in compliance with Section 1702.9.10</i>	• <i>Escherichia coli: &lt; 100 CFU/100 mL</i> • <i>Turbidity: &lt; 10 NTU</i>
<i>Cooling tower make up water</i>	• <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>	• <i>Escherichia coli: &lt; 100 CFU/100 mL</i> • <i>Turbidity: &lt; 10 NTU</i>

**TABLE 1602.9.4  
MINIMUM WATER QUALITY**

<b>APPLICATION</b>	<b>MINIMUM TREATMENT</b>	<b>MINIMUM WATER QUALITY</b>
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 ( <i>100 μm</i> ) in accordance with Section 1602.9.11.	Escherichia coli: < 100 CFU/100 mL, Turbidity: < 10 NTU

For SI units: 1 micron = 1 μm, 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 µm) 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 – <del>2009</del> 2012	Special Purpose Food Equipment and Devices	Appliances	301.4 <u>2</u> .2, 301.2
NSF/ANSI 350 – <del>2011</del> 2012 [BSC]	Onsite Residential and Commercial Water Reuse Treatment Systems, as amended*  NSF/ANSI 350, amended sections follow:  <b>5.6 Electrical components.</b> Electrical components . . . The California Electrical Code shall be followed for all electrical components, system installation, and system operation.	Miscellaneous	<del>1604.10.2</del> 1504.7
...			

**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