

STATE OF CALIFORNIA
STATE AND CONSUMER SERVICES AGENCY
CALIFORNIA BUILDING STANDARDS COMMISSION
2525 NATOMAS PARK DR., SUITE 130
SACRAMENTO, CA 95833
(916) 263-0916 Phone
(916) 263-0959 Fax
Email: cbsc@dgs.ca.gov

Office Use Item No. _____

PARTICIPATION COMMENTS FOR THE NOTICE DATED AUGUST 24, 2012
Written comments are to be sent to the above address.

WRITTEN COMMENT DEADLINE: OCTOBER 8, 2012

Date: 10/1/12

From:

Rachel Kraai
Name (Print or type)

submitted electronically
(Signature)

San Francisco Public Utilities Commission

Agency, jurisdiction, chapter, company, association, individual, etc.

525 Golden Gate Ave.
Street

San Francisco
City

CA
State

94102
Zip

Note that this is SFPUC Comment Sheet 1 of 7

We (do) **(do not)** agree with:

[X] The Agency proposed modifications As Submitted on **Section No. 220.0**

and request that this section or reference provision be recommended:

[] Approved [] Disapproved [] Held for Further Study [X] **Approved as Amended**

Suggested Revisions to the Text of the Regulations:

Note: SFPUC suggested revisions are in **red**.

220.0

Rainwater. ~~Precipitation on any public or private parcel that has not entered an offsite storm drain system or channel, a flood control channel, or any other stream channel, and has not previously been put to beneficial use.~~ Natural precipitation that has contacted a rooftop or other man-made above ground surface and has not been put to beneficial use.

Stormwater. Natural precipitation that has contacted a surface at grade or below grade and has not been put to beneficial use.

Rainwater Catchment System. A facility designed to capture, retain, and store rainwater. ~~flowing off a building, parking lot, or any other manmade impervious surface for subsequent onsite use.~~ Rainwater catchment system is also known as "Rainwater Harvesting System" or "Rainwater Capture System."

Reason: [The reason should be concise if the request is for “Disapproval,” “Further Study,” or “Approve As Amend” and identify at least one of the 9-point criteria (following) of Health and Safety Code §18930.]

1. It is standard model code language to distinguish between rainwater (*precipitation that has contacted a rooftop or other man-made above ground surface and has not been put to beneficial use*) and stormwater (*precipitation that has contacted a surface at grade or below grade*) and to allow for the collection of both. Please see the 2012 IAPMO Green Plumbing and Mechanical Code Supplement. The SFPUC suggests that the CBC make the distinction as described in the proposed language. Stormwater may require treatment above and beyond rainwater collected from roof surfaces or other manmade above ground impervious collection surfaces; the SFPUC supports different treatment requirements for the two sources of water.

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Note that this is SFPUC Comment Sheet 2 of 7

We (do) (**do not**) agree with:

The Agency proposed modifications As Submitted on **Section No. 1601.1**

and request that this section or reference provision be recommended:

Approved Disapproved Held for Further Study **Approved as Amended**

Suggested Revisions to the Text of the Regulations:

Note: SFPUC suggested revisions are in **red**.

1601.1 Applicability. *Except as otherwise provided for in this chapter, the provisions of this code shall be applicable to alternate water source system installation. The provisions of this chapter shall apply to the construction, alteration, discharge, use and repair of alternate water source systems for nonpotable applications. In addition, applicable provisions in Chapter 17, "Nonpotable Rainwater Catchment Systems" shall apply to rainwater catchment systems.*

Reason: [The reason should be concise if the request is for "Disapproval," "Further Study," or "Approve As Amend" and identify at least one of the 9-point criteria (following) of Health and Safety Code §18930.]

The SFPUC requests inclusion of this clause in Chapter 16 in order to clarify location of requirements specifically for nonpotable rainwater catchment systems. The suggested language matches the parallel clause in the current draft Applicability section of Chapter 17.

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Note that this is SFPUC Comment Sheet 3 of 7

We (do) **(do not)** agree with:

The Agency proposed modifications As Submitted on **Section No. 1601.7**

and request that this section or reference provision be recommended:

Approved Disapproved Held for Further Study **Approved as Amended**

Suggested Revisions to the Text of the Regulations:

Note: SFPUC suggested revisions are in red.

(HCD – Residential Occupancies) 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 public health Authority Having Jurisdiction. In the absence of water quality requirements for on-site treated nonpotable gray water systems, *the requirements of NSF/ANSI 350 shall apply.*

1) For owner occupied single family dwellings NSF/ANSI-350.

2) For R-1 and R-2 occupancies, the California Department of Public Health statewide uniform criteria for disinfected tertiary recycled water as provided in California Code of Regulations, Title 22, Section 60301.230.

(BSC – Commercial Occupancies) 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 public health Authority Having Jurisdiction. In the absence of water quality requirements for on-site nonpotable treated gray water systems, *the requirements of NSF/ANSI 350 shall apply.*

Reason: [The reason should be concise if the request is for “Disapproval,” “Further Study,” or “Approve As Amend” and identify at least one of the 9-point criteria (following) of Health and Safety Code §18930.]

In the event that a local public health Authority Having Jurisdiction has not established applicable water quality requirements for on-site nonpotable treated gray water systems, the SFPUC recommends that the BSC adopt NSF/ANSI 350 as the default standard for **both commercial and residential occupancies**. The SFPUC recommends the adoption of the same standard for both commercial and residential occupancies to ensure consistency in water quality standards across building types, and to facilitate installation of proven third party certified systems.

1. NSF/ANSI 350 is a nationally recognized standard for both residential and commercial non-potable reuse. NSF/ANSI 350 was developed through an extensive national research and review process to establish requirements and a third party certification process for onsite **residential and commercial** systems in order to address public health and environmental concerns.
2. The NSF/ANSI 350 standard and certification process will be the primary third party certification process for onsite non-potable reuse systems in the future. Adoption of standards with an established third party certification process will ease concerns about installation of certified systems by property owners and health and building inspection officials, and it will facilitate safe and effective use of these systems.
3. There is no clear rationale why water quality standards for larger scale residential developments should be different than standards for commercial developments.

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Note that this is SFPUC Comment Sheet 4 of 7

I/We **do not** agree with:

[] The Agency proposed modifications As Submitted on Section No. **1602.0 and 1602.1 (HCD and BSC)**

and request that this section or reference provision be recommended:

[] Approved [] Disapproved [] Held for Further Study [] Approved as Amended

Suggested Revisions to the Text of the Regulations:

Note: SFPUC suggested revisions are in **red**.

1602.0 **Untreated Gray Water Systems**

1602.1 General. The provisions of this section shall apply to the construction, alteration, and repair of **untreated** gray water systems **for outdoor irrigation and infiltration**. A city, county, or city and county or other local government may adopt, after a public hearing and enactment of an ordinance or resolution, building standards that are more restrictive than the gray water building standards adopted in this code. For additional information, see Health and Safety Code Section 18941.7.

Reason: [The reason should be concise if the request is for “Disapproval,” “Further Study,” or “Approve As Amend” and identify at least one of the 9-point criteria (following) of Health and Safety Code §18930.]

These additions clarify that this section of the code applies to untreated graywater systems designed specifically for outdoor irrigation and infiltration. This is in contrast to later **Section 1604.0 On-Site Treated Nonpotable Graywater Water Systems**. As both sections technically apply to graywater systems, section titles should be clear and reflect the different content within each section.

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Note that this is SFPUC Comment Sheet 5 of 7

We (do) (**do not**) agree with:

The Agency proposed modifications As Submitted on **Section No. 1702.8**

and request that this section or reference provision be recommended:

Approved Disapproved Held for Further Study **Approved as Amended**

Suggested Revisions to the Text of the Regulations:

Note: SFPUC suggested revisions are in **red**.

1702.8 Rainwater Catchment Water System Color and Marking Information. Rainwater catchment systems shall have a colored background in accordance with Section 601.2. Rainwater catchment systems shall be marked, in lettering in accordance with Section 601.2, with the words: "CAUTION: NONPOTABLE RAINWATER **WATER**, DO NOT DRINK."

Reason: [The reason should be concise if the request is for "Disapproval," "Further Study," or "Approve As Amend" and identify at least one of the 9-point criteria (following) of Health and Safety Code §18930.]

Language is redundant. This appears to be a typo.

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Note that this is SFPUC Comment Sheet 6 of 7

We (do) (**do not**) agree with:

The Agency proposed modifications As Submitted on **Section No. 1702.9.3**

and request that this section or reference provision be recommended:

Approved Disapproved Held for Further Study **Approved as Amended**

Suggested Revisions to the Text of the Regulations:

Note: SFPUC suggested revisions are in red.

1702.9.3 Collection Surfaces. Rainwater shall be collected from roof surfaces, or other manmade, above-ground impervious collection surfaces. ~~Rainwater~~ **Precipitation** collected from surface water runoff, vehicular parking surfaces or manmade surfaces at or below grade ~~shall comply with the water quality requirements for on-site treated nonpotable gray water in Section 1604.0.~~ **is considered stormwater and may be permitted to be collected for re-use. Prior to commencing the issuance of permits for stormwater reuse, a city, county, city and county or other local agency shall seek consultation with the local public health department to ensure that public health concerns are addressed in standards or ordinances, or in issuing permits.**

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

Reason: [The reason should be concise if the request is for "Disapproval," "Further Study," or "Approve As Amend" and identify at least one of the 9-point criteria (following) of Health and Safety Code §18930.]

1. It is standard model code language to distinguish between rainwater (*precipitation that has contacted a rooftop or other man-made above ground surface and has not been put to beneficial use*) and stormwater (*precipitation that has contacted a surface at grade or below grade*) and to allow for the collection of both. Please see the 2012 IAPMO Green Plumbing and Mechanical Code Supplement.
2. Stormwater (*precipitation that has contacted a surface at grade or below grade*) may require treatment above and beyond rainwater collected from roof surfaces, or other manmade, above ground impervious collection surfaces; the SFPUC supports different treatment requirements for the two sources of water. However, the referenced treatment standards for *graywater* are not appropriate for stormwater. Graywater comes from a different source than stormwater and contains a distinct set of potential contaminants which pose different risks than stormwater and require different treatment. For example, stormwater can come from vehicular surfaces and can therefore contain oils, petroleum, and VOCs – which are contaminants generally not present in graywater. The standards for non-potable graywater reuse were not designed to address this set of potential contaminants and hence should not be applicable for stormwater. As there is not yet a nationally accepted default water quality standard for stormwater reuse, the SFPUC requests that jurisdiction for stormwater reuse be designated to the local public health authority having jurisdiction until a rational national or state standard is set. We request that the BSC and HCD add a similar clause to what is included in Chap 16, Section 1601.3 regarding local public health approval.

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Note that this is SFPUC Comment Sheet 7 of 7

We (do) (do not) agree with:

The Agency proposed modifications As Submitted on **Table 1702.9.4**

and request that this section or reference provision be recommended:

Approved Disapproved Held for Further Study **Approved as Amended**

Suggested Revisions to the Text of the Regulations:

Note: SFPUC suggested revisions are in red. The SFPUC suggests that this table and its exceptions be **consistent across residential and commercial occupancies**. Currently there is an exception in the BSC version of the code that that is not in the HCD version.

(BSC +HCD) Exception:

No treatment is required for rainwater used for non-spray irrigation where the maximum storage volume is less than ~~360~~ 5000 gallons where the tank is supported directly upon grade and the ratio of height to diameter or width does not exceed 2 to 1.

TABLE 1702.9.4
MINIMUM TREATMENT AND WATER QUALITY FOR RAINWATER

| <u>Application</u> | <u>Minimum Treatment</u> | <u>Minimum Water Quality</u> |
|--------------------|--------------------------|------------------------------|
|--------------------|--------------------------|------------------------------|

| | | |
|---|--|---|
| <u>Car washing</u> | <u>Debris excluder or other approved means in compliance with Section 1702.9.10</u> <u>100 Micron (100 µm) in compliance with Section 1702.9.11 for drip irrigation</u> | <u>N/A</u> |
| <u>Surface, subsurface and drip Drip irrigation</u> | <u>Debris excluder or other approved means in compliance with Section 1702.9.10</u> <u>100 Micron (100 µm) in compliance with Section 1702.9.11 for drip irrigation</u> | <u>N/A</u> |
| <u>Non-spray surface and subsurface irrigation</u> | <u>Debris excluder or other approved means in compliance with Section 1702.9.10</u> | <u>N/A</u> |
| <u>Spray irrigation where the maximum storage volume is less than 360 gallons (1363 L)</u> | <u>Debris excluder or other approved means in compliance with Section 1702.9.10</u> | |
| <u>Spray irrigation where the maximum storage volume is equal to or greater than 360 gallons (1363 L)</u> | <u>Debris excluder or other approved means in compliance with Section 1702.9.10</u> | <u>Escherichia coli: < 100 CFU/100 ml</u> <u>Turbidity: < 10 NTU</u> |
| <u>Urinal and water closet flushing, clothes washing, and trap priming</u> | <u>Debris excluder or other approved means in compliance with Section 1702.9.10</u> <u>100 Micron (100 µm) in compliance with Section 1702.9.11</u> | <u>Escherichia coli: < 100 CFU/100 ml</u> <u>Turbidity: < 10 NTU</u> |
| <u>Ornamental fountains and other water features</u> | <u>Debris excluder or other approved means in compliance with Section 1702.9.10</u> | <u>Escherichia coli: < 100 CFU/100 ml</u> <u>Turbidity: < 10 NTU</u> |
| <u>Cooling tower make up water</u> | <u>Debris excluder or other approved means in compliance with Section 1702.9.10</u> <u>100 Micron (100 µm) in compliance with Section 1702.9.11</u> | <u>Escherichia coli: < 100 CFU/100 ml</u> <u>Turbidity: < 10 NTU</u> |

Reason: [The reason should be concise if the request is for “Disapproval,” “Further Study,” or “Approve As Amend” and identify at least one of the 9-point criteria (following) of Health and Safety Code §18930.]

1. All rainwater harvesting systems larger than 360 gallons should be equipped with a debris excluder or “first flush diverter” in order to ensure baseline treatment and prevent “first flush” contaminants from entering the tank.
2. Rainwater which is used for non-spray surface or subsurface irrigation does not require subsequent filtration (100 micron). Filtration beyond first flush diversion is not necessary from an operational or public health perspective for non-spray surface and subsurface irrigation regardless of system size.