

**NOTICE OF POST-HEARING MODIFICATIONS TO TEXT OF  
PROPOSED REGULATIONS  
TO  
BUILDING STANDARDS  
OF THE  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
REGARDING THE 2010 CALIFORNIA GREEN BUILDING STANDARDS CODE  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11  
(HCD 05/09)**

The California Building Standards Commission (CBSC) on behalf of the Department of Housing and Community Development (HCD) is providing notice of the changes made to proposed regulations, Preface, Sections 101.7.1, 4.1.4.1, 4.1.4.1.1, 4.1.6.2, 4.2.1.1, 4.3.4.1, 4.4.8.1, 4.4.8.2, 4.4.10.1, 4.5.3.1, 4.5.4.2.3, 4.5.4.3, 4.5.4.5, 4.5.6.1, 702.1, Construction Waste Management (CWM) Plan form, A4.1.6.2.3, A4.1.6.2.4, A4.1.6.4, A4.1.6.5, A4.3.2 "Definitions", A4.3.3.1, A4.3.3.2, A4.3.4.4, A4.3.4.4.1, A4.4.8.1, A4.4.8.1.1, A4.5.4.2, A4.5.4.3, A4.6.1.2 through A4.6.1.5, Tables A4.1.6.5(1), A4.1.6.5(2), A4.6.1.4 and Application Checklist, which were the subject of a public comment period that ended on November 16, 2009.

These changes are in response to comments received during the initial 45-day public comment period which began on October 2, 2009, and ended on November 16, 2009.

The CBSC will accept written comments for at least 15 days between December 1, 2009, and December 16, 2009. All written comments must be submitted to the CBSC no later than 5:00 p.m. on December 16, 2009, and addressed to:

**California Building Standards Commission  
2525 Natomas Park Drive, Suite 130  
Sacramento, CA 95833  
Attention: Dave Walls, Executive Director**

Written comments may also be faxed to (916) 263-0959 or e-mailed to [CBSC@dgs.ca.gov](mailto:CBSC@dgs.ca.gov) until 5:00 p.m. on December 16, 2009.

All written comments received by December 16, 2009, which pertain to the indicated changes, will be reviewed and responded to by HCD's staff as part of the compilation of the rulemaking file. Please limit comments to the modifications to the text only.

The proposed modifications to the text and a comment form may be found on the CBSC's website at the following link: [http://www.bsc.ca.gov/prpsd\\_chngs/pc\\_09\\_comment.htm](http://www.bsc.ca.gov/prpsd_chngs/pc_09_comment.htm).

**REVISED EXPRESS TERMS  
FOR  
PROPOSED BUILDING STANDARDS  
OF THE  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
REGARDING THE CHANGES TO THE  
2008 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBC)  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11**

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The Department of Housing and Community Development (HCD) proposes to revise the 2008 edition of the California Green Building Code (CGBC) as presented on the following pages. HCD further proposes to:

- Repeal amendments to the CGBC 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 CGBC, the action of which has no regulatory effect; adopt new necessary amendments to the CGBC proposed for adoption; and/or
  - Adopt new building standards that are not addressed by the CGBC code.
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**LEGEND FOR EXPRESS TERMS:**

1. **Existing California amendments or code language being modified:** All such language shown in normal Arial 9 point; modified language is underlined or shown in ~~strikeout~~.
  2. **Repealed text:** All language appears in ~~strikeout~~.
  3. **Amended, adopted or repealed language after public hearing:** All such language appears in double underline or ~~double strikeout~~.
  4. **Notation:** Authority and Reference citations are provided at the end of each section.
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**1. Amend the PREFACE as follows:**

**PREFACE**

... (No change to text)

A city, county or city and county may ~~make necessary changes to the provisions contained in this code which are establish more restrictive standards~~ reasonably necessary because of local climatic, geological, or topographical conditions. For the purpose of this code, these conditions include specific local environmental conditions as established by a city, county, or city and county. Findings of the local condition(s) and the adopted local building standard(s) must be filed with the California Building Standards Commission to become effective and may not be effective sooner than the effective date of this edition of the California Building Standards Code. ~~Local building standards that were adopted by local ordinance~~ and applicable to previous editions of the California Building Standards Code do not apply to this edition without appropriate adoption and the required filing.

... (No change to text)

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to make editorial amendments to the PREFACE based on comments received. HCD is proposing to make this editorial change to provide consistency with Section 101.7.1, Item 1.

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## 2. Amend Section 101.7.1 as follows:

### 101.7.1 Findings and filings.

The city, county, or city and county shall make express findings for each amendment, addition or deletion based upon climatic, topographical, or geological conditions. ~~For the purpose of this section, climatic, topographical, or geological conditions include local environmental conditions as established by the city, county, or city and county.~~

... (No change to text)

#### NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

#### Rationale for change:

HCD proposes to make editorial amendments to the section based on comments received. HCD is proposing to make this editorial change to provide consistency with the Preface.

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## 3. Repeal Sections 4.1.4.1 and 4.1.4.1.1 as follows:

~~**4.1.4.1 Existing site resources.** An inventory of existing natural resources on the site shall be developed and shown on the site plan. The inventory shall be used to preserve desirable existing natural resources, minimize site disturbance and minimize future adverse effects on the proposed structure. The site plan shall include, but is not limited to, the following:~~

- ~~1. Native and adaptive plants and trees to be preserved or removed.~~
- ~~2. Desirable land formations.~~
- ~~3. Natural water flows.~~
- ~~4. Other desirable resources identified by the enforcing agency.~~

~~**4.1.4.1.1 Preservation methods.** Methods to preserve desirable natural resources must be identified on the site plan. Strategies to reduce the impact on the site include, but are not limited to, the following:~~

- ~~1. Barriers or other identification markers are placed to identify and limit access to areas of the site where natural resources are to be retained.~~
- ~~2. Existing trees and vegetation identified for preservation are maintained and protected during the development process from root damage and compaction of the root area.~~
- ~~3. Trees, vegetation and other natural resources on the site are evaluated to ensure that they will not have an adverse effect on the sustainability of the completed development.~~
- ~~4. The goals and scope of the preservation measures are posted on the construction site and are provided to all entities entering the site.~~

#### NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

#### Rationale for change:

HCD proposes to repeal the sections listed above and its requirements. HCD received comments stating that there is overlapping jurisdiction with some of the requirements, which could cause confusion among code users and enforcing agencies.

HCD believes that the original proposal does have merit. However, based on the comments received, HCD is concerned that it may be premature to propose these requirements as mandatory or voluntary. HCD does not believe adequate time is available in this rulemaking cycle to properly evaluate stakeholder consensus for either a mandatory or voluntary measure. HCD may take the proposed requirements and concerns expressed under consideration as a requirement in future rulemaking packages after additional stakeholder outreach to mitigate the concerns.

#### 4. Amend Section 4.1.6.2 as follows:

~~406-2~~ **4.1.6.2 Storm water drainage and retention during construction.** Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall ~~develop a plan to~~ manage storm water drainage during construction. ~~A plan to~~ In order to manage storm water drainage during construction one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site. ~~One or more of the following methods shall be utilized to manage storm water drainage:~~

1. Retention basins of sufficient size shall be utilized to retain storm water on the site.
2. Where storm water is conveyed to a public drainage system, collection point, gutter, or similar disposal method, water shall be filtered by use of a barrier system, wattle, or other method approved by the enforcing agency.
3. Compliance with a lawfully enacted storm water management ordinance.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

**Rationale for change:**

HCD proposes to make editorial amendments to the section based on comments received. HCD did not originally propose amendment to this section which was adopted in the 2008 CGBC; however, HCD received a comment stating the term “a plan” creates confusion during plan review and/or inspection. HCD is proposing to make this editorial change to remove any ambiguity or confusion. The requirements of the section remain the same and there is no change in regulatory effect.

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#### 5. Amend Section 4.2.1.1 as follows:

~~501-4~~ **4.2.1.1 Scope.** ~~The provisions of this chapter shall outline means of achieving enhanced building energy efficiency. The Department of Housing and Community Development does not regulate mandatory energy efficiency standards in residential buildings. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.~~

**Note:** It is the intent of this code to encourage buildings to achieve exemplary performance in the area of energy efficiency. For the purposes of energy efficiency standards, the California Energy Commission believes specifically, a green building should achieve at least a 15% reduction in energy usage when compared to the State's mandatory energy efficiency standards. The Department of Housing and Community Development's mandatory green building standards for residential buildings do not require compliance with levels of minimum energy efficiency beyond those required by the California Energy Commission.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

**Rationale for change:**

HCD received comments from the building industry stating they had received numerous concerns from enforcement officials and builders regarding this section. This section has been the topic of much discussion and has been modified several times in an effort to provide clear direction to code users regarding the authority of the California Energy Commission (CEC) to adopt mandatory energy requirements. During development of the 2008 CGBC, HCD worked with the CEC to include suggested language regarding the CEC belief that in order for a building to be considered a green building, it must exceed the mandatory energy requirements by 15%. The inclusion of this statement apparently has created confusion. In an effort to maintain the language suggested by the CEC and eliminate confusion, HCD is proposing the above modifications to this section and the note. This change is editorial and there is no change in regulatory effect.

## 6. Amend Section 4.3.4.1 as follows:

**4.3.4.1 Irrigation controllers.** Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following:

1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.
2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.

**Note:** More information regarding irrigation controller function and specifications is available from the Irrigation Association at <http://www.irrigation.org/SWAT/Industry/ia-tested.asp>.

### NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

### Rationale for change:

HCD received a comment stating this requirement is broad and could be interpreted to apply to areas of the lot or parcel that are not landscaped or intended to be landscaped. HCD is proposing to add language similar to that used in Section A4.3.3 to indicate that this section only applies if landscaping is provided.

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## 7. Amend Section 4.4.8.1 as follows:

~~708.3~~ **4.4.8.1 Construction waste reduction of at least 50%.** Recycle and/or salvage for reuse a minimum of 50% of the non-hazardous construction and demolition debris, or meet a local construction and demolition waste management ordinance, whichever is more stringent. Calculate the amount of materials diverted by weight or volume, but not by both.

### Exceptions:

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.

### NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

### Rationale for change:

HCD received a comment expressing concern that there may be longstanding contractual or franchise agreements between a local jurisdiction and a specific waste hauler which could create problems for the cost-effective separation and/or transport of construction waste. HCD concurs with this comment and acknowledges that long haul distances may be problematic and not feasible. This modification will allow the enforcing agency and the builder flexibility to find an acceptable alternate when working through difficult logistical situations.

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## 8. Amend Section 4.4.8.2 as follows:

**4.4.8.2 Construction waste management plan.** Where a local jurisdiction does not have a construction and demolition waste management ordinance, a construction waste management plan shall be submitted for approval to the enforcing agency that:

1. Identifies the materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specifies if materials will be sorted on-site or mixed for transportation to a diversion facility.
3. Identifies the diversion facility where the material collected will be taken.
4. Identifies construction methods employed to reduce the amount of waste generated.
- 4.5. Specifies that the amount of materials diverted shall be calculated by weight or volume, but not by both.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

**Rationale for change:**

HCD received a comment expressing concern that there may not be adequate diversion provided by a hauler to meet the required percentages. In this case, it may become necessary to combine waste diversion methods which reduce the amount of material that is taken to the site. In these instances, the construction methodology used to decrease waste prior to material being delivered to the jobsite should be identified. HCD concurs with this comment and acknowledges the necessity for this modification. This modification will allow the builder to employ a wider range of waste reduction methods prior to the material being delivered to the site and identify this method for verification and approval by the enforcing agency.

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## 9. Amend Section 4.4.10.1 as follows:

**740.2 4.4.10.1 Operation and maintenance manual.** At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life-cycle of the structure.
2. ... (No change to text)

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

**Rationale for change:**

HCD received a comment expressing concern that there may be more efficient and preferable ways to provide this information to the occupant. HCD concurs with this comment and does not want to limit this requirement to a printed manual. This modification will allow the builder and the enforcing agency greater flexibility.

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## 10. Amend Section 4.5.3.1 as follows:

**4.5.3.1 General.** ~~Install only~~ Any installed gas fireplace shall be a direct-vent sealed-combustion type, ~~gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove and refer to the residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150.~~ Any installed woodstove or pellet stove shall comply with US EPA Phase II emission limits where applicable. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.

**4.5.3.1.1 Woodstoves and pellet stoves.** Woodstoves and pellet stoves shall comply with US EPA Phase II emission limits.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.1.

**Rationale for change:**

HCD received a comment stating this proposal was not clear, lacked needed definition and therefore may be difficult to understand and enforce. HCD is proposing to modify the language in order to clarify the intent of this section.

**11. Add Section 4.5.4.2.3 to the Application Checklist as follows:**

<u>4.5.4.2.3 Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and other toxic compounds.</u>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to make clarifying amendments to Application Checklist based on comments received. HCD is proposing to make this editorial change to provide clarity to the code user. The original submittal did not reference the requirements contained in Section 4.5.4.2.3. The code user would have needed to rely on the body of the code for this mandatory requirement. The change aligns the checklist with what was originally proposed in the body of the code. The code requirements of this section remain the same and there is no change in regulatory effect.

**12. Amend Section 4.5.4.3 as follows:**

~~4.5.4.3~~ **4.5.4.2.4 Verification.** Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

1. Manufacturers product specification.
2. Field verification of on-site product containers.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to make clarifying amendments to this section based on comments received. HCD is proposing to make this editorial change to provide clarity to the code user. The original submittal was not numbered correctly and did not accurately specify to the code user that verification documentation was necessary to ensure compliance with this section. The code requirements of this section remain the same and there is no change in regulatory effect.

### 13. Amend Section 4.5.4.5 as follows:

4.5.4.5 Resilient flooring systems. For Where resilient flooring is installed at least 50% of floor area receiving resilient flooring, install resilient flooring complying shall comply with the VOC-emission limits defined in the Collaborative for High Performance Schools (CHPS) Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RCFI) FloorScore program.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD received a comment expressing concern that the language in this section may be confusing. HCD concurs with this comment and is proposing an editorial change to more clearly communicate the requirements of this section. There is no change in regulatory effect.

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### 14. Amend Section 4.5.6.1 as follows:

~~806.3~~ 4.5.6.1 Bathroom exhaust fans. Except when a whole house ventilation system is used installed, a mechanical exhaust fan shall be provided in each room containing a bathtub, shower, or tub/shower combination. Mechanical exhaust fans shall comply with the following. Mechanical exhaust fans which exhaust directly from bathrooms shall comply with the following:

- ~~1. Exhaust system shall comply with ASHRAE 62.2, Section 5 Continuous exhaust fans shall have a maximum sone rating of 1.0. Other exhaust fans required by this section shall have a maximum sone rating of 1.5.~~
- ~~2. Fans shall be~~ Be ENERGY STAR compliant and be ducted to terminate outside the building.

~~3.2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a timer/occupancy sensor or a~~ humidistat which shall be readily accessible.

a. Humidistat controls shall be capable of adjustment between a relative humidity range of ~~20~~ 50 to 80 percent.

~~b. Timer/occupancy controls shall activate the fan upon entering the room and allow user adjustment of the run time of the fan.~~

Note: Fans used to comply with both, this section and the whole building ventilation provisions of ASHRAE 62.2 shall be considered to meet the requirements of this section. For the purposes of this section, a bathroom is a room which contains a bathtub, shower, or tub/shower combination.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to make amendments to the section based on comments received. ASHRAE 62.2 compliance is required in 2008 Title 24, Part 6, Subchapter 7, Section 150, Part (o), and requires exhaust be provided in each kitchen and bathroom. ASHRAE 62.2 also addresses sone ratings for exhaust fans. HCD is proposing modifications to remove these redundancies. Fans that are a component of a whole house ventilation system will either operate continuously or on a programmed schedule. Bathroom exhaust fans that are a component of a whole house ventilation system will operate on a programmed schedule. There is no need to include humidistat controls or timer/occupancy controls for a fan that is designed and installed to operate continuously or on a programmed schedule. HCD also received comment stating occupancy sensors should not be excluded because the humidity level may not be at an undesirable level each time the room is occupied resulting in unnecessary run time. In addition, the lower limit of the humidity range has been increased to avoid fans running continuously or running to achieve unnecessarily low humidity levels.



## 15. Amend Section 702.1 as follows:

**A507.1.4 702.1 Installer training.** HVAC system installers shall be trained and certified ~~or win~~ in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

### NOTE:

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

### Rationale for change:

HCD proposes to make editorial amendments to the section based on comments received. HCD is proposing to make this editorial change to remove a typographical error. The requirements of the section remain the same and there is no change in regulatory effect.

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## 16. Amend the sample Construction Waste Management (CWM) Plan form as follows:

### CONSTRUCTION WASTE MANAGEMENT (CWM) PLAN

Note: This sample form may be used to assist in documenting compliance with the waste management plan.

**Project Name:** \_\_\_\_\_  
**Job #:** \_\_\_\_\_  
**Project Manager:** \_\_\_\_\_  
**Waste Hauling Company:** \_\_\_\_\_  
**Contact Name:** \_\_\_\_\_

All Subcontractors shall comply with the project's Construction Waste Management Plan.  
All Subcontractor foremen shall sign the CWM Plan Acknowledgement Sheet.

Subcontractors who fail to comply with the Waste Management Plan will be subject to backcharges or withholding of payment, as deemed appropriate. For instance, Subcontractors who contaminate debris boxes that have been designated for a single material type will be subject to backcharge or withheld payment, as deemed appropriate.

1. ... (No change to text)
2. ... (No change to text)
3. ... (No change to text)
4. ... (No change to text)
5. ... (No change to text)
6. ... (No change to text)
7. In the event that the waste diversion rate achievable via the strategy described in (6) above, is projected to be lower than what is required, then a strategy of source-separated waste diversion and/or waste stream reduction will be implemented. Source separated waste refers to jobsite waste that is not commingled but is instead allocated to a debris box designated for a single material type, such as clean wood or metal.

### Notes:

1. Waste stream reduction refers to efforts taken by the builder to reduce the amount of waste generated by the project to below four (4) pounds per square foot of building area.

2. When using waste stream reduction measures, the gross weight of the product is subtracted from a base weight of four (4) pounds per square foot of building area. This reduction is considered additional diversion and can be used in the waste reduction percentage calculations.

8. [HAULING COMPANY] will track and calculate the quantity (in tons) of all waste leaving the project and calculate the waste diversion rate for the project. [HAULING COMPANY] will provide Project Manager with an updated monthly report on gross weight hauled and the waste diversion rate being achieved on the project. [HAULING COMPANY's] monthly report will track separately the gross weights and diversion rates for commingled debris and for each source-separated waste stream leaving the project. In the event that [HAULING COMPANY] does not service any or all of the debris boxes on the project, the [HAULING COMPANY] will work with the responsible parties to track the material type and weight (in tons) in such debris boxes in order to determine waste diversion rates for these materials.
9. In the event that Subcontractors furnish their own debris boxes as part of their scope of work, such Subcontractors shall not be excluded from complying with the CWM Plan and will provide [HAULING COMPANY] weight and waste diversion data for their debris boxes.
10. ... (No change to text)
11. ... (No change to text)

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to make editorial amendments to the section based on comments received. HCD is proposing to make this change to allow a builder to count waste reduction that does not make it to the jobsite. In the original proposal, a builder could only count waste that was hauled from the site. This method did not account for builders which reduced waste prior to delivery to the site. The requirements of the section remain the same and there is no change in regulatory effect.

**17. Amend Sections A4.1.6.2.3, A4.1.6.2.4 and the Application Checklist as follows:**

~~**A4.1.6.2.3 Topsoil Protection.** AA 406.3.5 Displaced topsoil is stockpiled for reuse in a designated area and covered and or protected from erosion.~~

~~**Note:** Protection from erosion includes covering with tarps, straw, mulch, chipped wood, vegetative cover, or other means acceptable to the enforcing agency to protect the topsoil for later use.~~

~~**A4.1.6.2.4 No Disturbance Areas.** The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area. Heavy equipment or vehicle traffic and material storage outside the construction area shall be limited to areas that are planned to be paved.~~

**A4.1.6.2.3 Topsoil Protection.** Topsoil shall be protected or saved for reuse as specified in this section.

Tier 1. Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion.

Note: Protection from erosion includes covering with tarps, straw, mulch, chipped wood, vegetative cover, or other means acceptable to the enforcing agency to protect the topsoil for later use.

Tier 2. The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area. Heavy equipment or vehicle traffic and material storage outside the construction area shall be limited to areas that are planned to be paved.

<p><del>A4.1.6.2.3 Displaced topsoil is stockpiled for reuse and protected.</del> Topsoil shall be protected or saved for reuse as specified in this section.</p> <p><u>Tier 1. Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion.</u></p> <p><u>Tier 2. The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area.</u></p>		<input checked="" type="checkbox"/> <sup>2</sup>	<input checked="" type="checkbox"/> <sup>2</sup>  <input checked="" type="checkbox"/> <sup>2</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><del>A4.1.6.2.4 The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area.</del></p>		<input type="checkbox"/>	<input checked="" type="checkbox"/> <sup>2</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to make clarifying amendments to these sections based on comments received. HCD is proposing to make this editorial change to provide clarity to the code user. The original submittal did not reference the requirements for each tier. The code user would have needed to rely on the Application Checklist for the tier requirements. The change aligns the text with what was originally proposed in the Application Checklist. The code requirements of these sections remain the same and there is no change in regulatory effect.

**18. Amend Section A4.1.6.4 as follows:**

**A4.1.6.4 Water permeable surfaces.** Permeable paving is utilized for the parking, walking, or patio surfaces in compliance with the following.

Tier 1. Not less than 20% of the total parking, walking, or patio surfaces shall be permeable.

Tier 2. Not less than 30% of the total parking, walking, or patio surfaces shall be permeable.

**Exceptions:**

1. The primary driveway, primary entry walkway and entry porch or landing shall not be included when calculating the area required to be a permeable surface.

2. Required accessible routes for persons with disabilities as required by California Code of Regulations, Title 24, Part 2, Chapter 11A and/or Chapter 11B as applicable.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD is proposing amendments to this section based on comments received. HCD received a comment stating this requirement may create a problem for persons with disabilities. HCD believes that provisions of Section 101.6.1 cover this issue. However, HCD also wants to ensure that the provisions for disabled access are properly addressed and chooses to also include a pointer to the requirement of the California Building Code. There is no change in regulatory effect because the disabled access provisions are already in effect and are specific.

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**19. Amend Section A4.1.6.5 and Tables A4.1.6.5(1) and A4.1.6.5(2) follows:**

**A4.1.6.5 Cool roof.** Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance or a minimum aged Solar Reflectance Index (SRI) equal to or greater than the values specified in Table 4.1.6.4 5(1) for Tier 1 and Table 4.1.6.5(2) for Tier 2.

**Exceptions:**

1. Install roof constructions that have a thermal mass over the roof membrane with a weight of at least 25 lb/sf.
2. Install a combination of highly reflective and roof constructions with thermal mass over the roof membrane with a weight of at least 25 lb/sf.

**TABLE A4.1.6.5(1)**  
**Tier 1**

Roof Slope	Roof Weight	Climate Zone	Minimum 3-year Aged		
			Minimum 3-year Aged Solar Reflectance	Thermal Emittance	SRI
≤ 2 : 12	N.A	213&15	0.55	0.75	64
> 2 : 12	< 5 lbs./ft <sup>2</sup>	210-15	0.20	0.75	16
	≥ 5 lbs./ft <sup>2</sup>	1-16	0.15	0.75	10

**TABLE A4.1.6.5 (2)**  
**Tier 2**

Roof Slope	Roof Weight	Climate Zone	Minimum 3-year Aged		
			Minimum 3-year Aged Solar Reflectance	Thermal Emittance	SRI
≤ 2 : 12	N/A	<del>4-16</del> 2,4,6-15	<del>TBD</del> 0.65	<del>TBD</del> 0.85	78
> 2 : 12	N/A	<del>4-16</del> 2,4,6-15	<del>TBD</del> 0.25	<del>TBD</del> 0.85	29

**A4.1.6.5.1 Verification.** Inspection shall be conducted to ensure roofing materials meet cool roof aged solar reflectance and thermal emittance or SRI values.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD is proposing amendments to Section A4.1.6.5 based on comments received in order to correct a typographical error. In addition, HCD is proposing to modify the Tier 1 table to gain consistency with the values used in Title 24, Part 6. HCD is also proposing amendments to limit the applicable climate zones to cooling zones in the Tier 2 table and include printed values to replace the “To Be Determined” placeholder in the original proposal. Lastly, HCD is proposing to add a clarifying section stating that verification is required.

**20. Amend Sections A4.3.3.1, A4.3.3.2 and the Application Checklist as follows:**

~~**A4.3.3.1 Kitchen faucets in Tier 1 buildings.** The maximum flow rate at a kitchen sink faucet shall not be greater than 1.5 gallons per minute at 60 psi.~~

~~**Note:** Rated flow rates for the default function of the faucet shall be used to demonstrate compliance with this section.~~

~~**A4.3.3.2 Dishwashers in Tier 2 buildings.** Dishwashers shall be ENERGY STAR qualified and not use more than 5.8 gallons of water per cycle.~~

**A4.3.3.1 Kitchen faucets and dishwashers.** Kitchen faucets and dishwashers in Tier 1 and tier 2 buildings shall comply with this section.

Tier 1. The maximum flow rate at a kitchen sink faucet shall not be greater than 1.5 gallons per minute at 60 psi.

Note: Rated flow rates for the default function of the faucet shall be used to demonstrate compliance with this section.

Tier 2. In addition to the kitchen faucet requirements for Tier 1, dishwashers in Tier 2 building shall be ENERGY STAR qualified and not use more than 5.8 gallons of water per cycle.

<p><del><b>A4.3.3.1 The maximum flow rate at a kitchen sink faucet shall not be greater than 1.5 gallons per minute at 60 psi. Kitchen faucets and dishwashers shall comply with this section.</b></del></p> <p><u>Tier 1. The maximum flow rate at a kitchen sink faucet shall not be greater than 1.5 gallons per minute at 60 psi.</u></p> <p><u>Tier 2. In addition to the kitchen faucet requirements for Tier 1, dishwashers in Tier 2 building shall be ENERGY STAR qualified and not use more than 5.8 gallons of water per cycle.</u></p>		<input checked="" type="checkbox"/> ²	<input checked="" type="checkbox"/> ²  <input checked="" type="checkbox"/> ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><del><b>A4.3.3.2 Dishwashers shall be ENERGY STAR qualified and not use more than 5.8 gallons of water per cycle.</b></del></p>		<input type="checkbox"/>	<input checked="" type="checkbox"/> ²	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to make clarifying amendments to these sections based on comments received. HCD is proposing to make this change to provide clarity to the code user. The original submittal was not clear and did not reference the requirements for each tier. The intent of code requirements for these sections remains the same and there is no intended change in regulatory effect. In addition, HCD is proposing to indicate this clarification in the Application Checklist.

**21. Add “Definitions” to Section A4.3.2, and amend Sections A4.3.4.4 and A4.3.4.4.1 as follows:**

**SECTION A602-4 A4.3.2**  
**DEFINITIONS**  
**(Reserved)**

**LANDSCAPE (PLANT) COEFFICIENT [Kl].** The product of the species factor multiplied by the density factor and the microclimate factor. {Kl=Ks x Kd X Kmc} The landscape coefficient is used in the landscape water budget calculation. (UCCE, 2000)

**REFERENCE EVAPOTRANSPIRATION (ETo).** The estimated rate of evapotranspiration from a standardized surface of well watered, actively growing cool season turfgrass clipped to 12 cm with sufficient density to fully shade the soil. The water needs of a landscape planting can be calculated by multiplying the Landscape Coefficient [Kl] and Reference Evapotranspiration {ETo}

**A4.3.4.4 Potable water reduction.** When landscaping is provided by the builder, a water efficient landscape irrigation design system shall be installed that reduces potable water use for irrigation by at least 50% for Tier 1 and 60% for Tier 2. The potable water use reduction shall be calculated beyond the initial requirements for plant installation and establishment. Calculations for the reduction shall be based on the water budget developed pursuant to Section A4.3.4.3.

Tier 1. Reduce the use of potable water to a quantity that does not exceed 65% of ETo times the landscape area.

Tier 2. Reduce the use of potable water to a quantity that does not exceed 60% of ETo times the landscape area.

Note: Methods used to comply with this section must be designed to meet the requirements of the other parts of the California Building Standards Code and may include, but are not limited to, the following:

1. Plant coefficient.
2. Irrigation efficiency and distribution uniformity.
3. Use of captured rainwater.
4. Use of recycled water.
5. Water treated for irrigation purposes and conveyed by a water district or public entity.
6. Use of graywater.

<u><b>A4.3.4.4</b> Provide water efficient landscape irrigation design that reduces the use of potable water.</u>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>Tier 1. <del>Not less than 50% reduction</del> Does not exceed 65% of ETo times the landscape area.</u>		<input checked="" type="checkbox"/>			
<u>Tier 2. <del>Not less than 60% reduction</del> Does not exceed 60% of ETo times the landscape area.</u>			<input checked="" type="checkbox"/>		

**A4.3.4.4.1 Verification.** A calculation demonstrating the applicable potable water use reduction required by this section shall be provided.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD is proposing to modify these sections based on comments received and is also proposing to add two definitions. HCD received comments from the landscaping industry indicating that the values were extreme, the language was confusing and if left unamended, would create excessive backlash from consumers. HCD worked with the landscape industry and state water experts to make revisions to this section that would result in a more usable standard that would be acceptable and still significantly reduce outdoor water use.

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**22. Amend Section A4.4.8.1 as follows:**

**A4.4.8.1 Enhanced construction waste reduction.** Non-hazardous construction and demolition debris generated at the site is diverted to recycle or salvage in compliance with one of the following:

Tier 1. At least a 65% reduction.

Tier 2. At least an ~~80%~~ 75% reduction.

**Exceptions:**

1. Equivalent or alternative waste reduction methods are developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.

2. The enforcing agency may make exceptions to the requirements of this section when jobsites are located in areas beyond the haul boundaries of the diversion facility.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to make amendments to this section based on comments received. HCD has received extensive input on the percentages that should be required in the tiers. HCD received comments from the construction industry and its consultants requesting the percentages be lowered to 60% and 70% respectively. Their concerns are based on published materials provided by National Association of Homebuilders (NAHB) that indicate only 85% - 90% of all the construction waste is recyclable. More specifically, the diversion of 100% of the wood, masonry, cardboard and drywall will only yield 82.5%. They are concerned that these margins are too close to be realistically attainable at the 80% level. HCD also had discussions with State of California waste experts who indicated they believed the thresholds originally proposed by HCD are realistic and attainable. They do not agree with some of NAHB's conclusions and have indicated that some non-residential projects have been able to attain significantly higher diversion rates. They also indicate that the waste streams should be similar for both so residential projects should also be able to meet the 80% level. HCD also received comments from residential green building program experts indicating the proposed diversion rates could be very problematic to achieve, would require very sophisticated builders and waste haulers and expressed particular concern with the 80% diversion rate. HCD has considered these comments and is proposing to leave the Tier 1 level at 65%, and lower the Tier 2 level to 75%. During the development of the original proposal, HCD has accepted comments which have suggested that when possible the CGBC should be compatible with some of the measures used by green building programs. HCD believes that while not necessary, this is a laudable concept. However, in this case, HCD must also balance the needs of not only the building industry representatives who primarily represent larger scale builders but also the less sophisticated builder or homeowner. Unlike green building programs which are typically point based, this requirement could become a mandatory requirement if adopted by a local jurisdiction. Based on opposing comments received from the experts in this field and the fact that HCD cannot establish if the 80% provision is a reasonable level, HCD is choosing to be cautious and use 75% as the diversion rate for Tier 2.

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## 23. Amend Section A4.4.8.1.1 as follows:

**A4.4.8.1.1 Documentation.** Documentation shall be provided to the enforcing agency which demonstrates compliance with this section. Documentation shall be in compliance with Section 4.4.8.2

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to make clarifying amendments to this section based on comments received. HCD is proposing to make this change to provide clarity to the code user. The original submittal was not clear and did not reference the documentation requirements in the code also applied to higher diversion percentages. The intent of code requirements for these sections remains the same and there is no intended change in regulatory effect.

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## 24. Amend Sections A4.5.4.2 and A4.5.4.3 as follows:

**A4.5.4.2 Resilient flooring systems.** Resilient flooring systems installed in the building shall meet the percentages specified in this section and comply with the VOC-emission limits defined in the Collaborative for High Performance Schools (CHPS) Low-emitting Materials List or certified under the Resilient Floor Covering Institute (RFCI) FloorScore program.

Tier 1. At least 80% of the total area of resilient flooring installed shall comply.

Tier 2. At least 90% of the total area of resilient flooring installed shall comply.

**Notes:**

1. Information regarding CHPS Low-emitting Materials List may be found at [www.chps.net/manual/lem\\_table.htm](http://www.chps.net/manual/lem_table.htm).

2. Information regarding RFCI certified products may be found at [http://www.rfci.com/int\\_FS-ProdCert.htm](http://www.rfci.com/int_FS-ProdCert.htm).

3. Documentation must be provided that verifies that finish materials are certified to meet the pollutant emission limits in ~~sections~~ this section.

**A4.5.4.3 Thermal insulation.** Thermal insulation installed in the building shall meet the following requirements:

Tier 1. Install thermal insulation in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools (CHPS) Low-emitting Materials List.

Tier 2. Install insulation which contains No-Added Formaldehyde (NAF) and is in compliance with the VOC-emission limits defined in Collaborative for High Performance Schools (CHPS) Low-emitting Materials List.

**Notes:**

1. CHPS Low-emitting Materials List may be found at [www.chps.net/manual/lem\\_table.htm](http://www.chps.net/manual/lem_table.htm).

2. Documentation must be provided that verifies the materials are certified to meet the pollutant emission limits in ~~Sections~~ this section.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to make editorial amendments to the section based on comments received. HCD is proposing to make this editorial change to remove a typographical error. The requirements of the section remain the same and there is no change in regulatory effect.

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**25. Amend Sections A4.6.1.2 through A4.6.1.5 and Table A4.6.1.4 as follows:**

**A4.6.1.2 Tier 1.** To achieve Tier 1, buildings must comply with the following:

- ~~1. Meet the minimum mandatory standards of this code contained in Chapter 4 as applicable;~~
- ~~2. Exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards by 15%;~~
- ~~3. Comply with the required prerequisites identified in the Residential Application Checklist in Section A4.6.2; and~~
- ~~4. Select and comply with the number of elective measures specified in Table A4.6.1.4 from the Residential Application Checklist in Section A4.6.2.~~

**A4.6.1.3 Tier 2.** To achieve Tier 2, buildings must comply with the following:

- ~~1. Meet the minimum mandatory standards of this code contained in Chapters 4 as applicable;~~
- ~~2. Exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards by 30%;~~
- ~~3. Comply with the required prerequisites identified in the Residential Application Checklist in Section A4.6.2; and~~
- ~~4. Select and comply with the number of elective measures specified in Table A4.6.1.4 from the Residential Application Checklist in Section A4.6.2.~~

**Note:** The Residential Application Checklist contained in Section A4.6.2 may be used to show which elective measures are selected.

**A4.6.1.4 Prerequisite measures.** Tier 1 and Tier 2 buildings must incorporate the prerequisite measures specified in the Residential Application Checklist in Section A4.6.2. As specified in Section 101.7, additional required prerequisite measures may be included by the enforcing agency to address specific local environmental conditions and may be listed in the Innovative Concepts and Local Environmental Conditions portions of the checklist.

**A4.6.1.5 Elective measures.** Tier 1 and Tier 2 buildings must incorporate at least the number of elective measures required in Table A4.6.1.4. Additional elective measures may be included by the enforcing agency to address specific local environmental conditions and may be listed in the Innovative Concepts and Local Environmental Conditions portions of the checklist.

**TABLE A4.6.1.4  
NUMBER OF ELECTIVE MEASURES REQUIRED BY TIER**

<u>Category</u>	<u>Tier 1</u>	<u>Tier 2</u>
Planning and Design	<u>2</u>	<u>5</u>
Energy Efficiency	<u>4 measures plus 15% above the 2008 Energy Efficiency Standards</u>	<u>8 measures plus 30% above the 2008 Energy Efficiency Standards</u>
Water Efficiency and Conservation	<u>1</u>	<u>2</u>
Material Conservation and Resource Efficiency	<u>2</u>	<u>5</u>
Environmental Quality	<u>1</u>	<u>1</u>

**A4.6.1.2 Prerequisite measures.** Tier 1 and Tier 2 thresholds require compliance with the mandatory provisions of this code and incorporation of the required prerequisite measures listed in Section A4.6.1.4.2 for Tier 1 and A4.6.1.5.2 for Tier 2. Prerequisite measures are also identified in the Residential Application Checklist in Section A4.6.2.

As specified in Section 101.7, additional prerequisite measures may be included by the enforcing agency to address specific local environmental conditions and may be listed in the Innovative Concepts and Local Environmental Conditions portions of the checklist.

**A4.6.1.3 Elective measures.** In addition to the required measures, Tier 1 and Tier 2 buildings must incorporate at least the number of elective measures specified in Sections A4.6.1.4.2 and A4.6.1.5.2.

**A4.6.1.4 Tier 1.** To achieve Tier 1, status a project must comply with the following:

**A4.6.1.4.1 Mandatory measures for Tier 1.** The project shall meet or exceed all of the mandatory measures in Chapter 4, Divisions 4.1 through 4.5 and Chapter 7 as applicable.

**A4.6.1.4.2 Prerequisite and elective measures for Tier 1.** In addition to the mandatory measures, compliance with the following prerequisite and elective measures from Appendix A4 is also required to achieve Tier 1 status:

1. From Division A4.1, Planning and Design.
  - 1.1 Comply with the topsoil requirements in Section A4.1.6.2.3.
  - 1.2 Comply with the 20% permeable paving requirements in Section A4.1.6.4.
  - 1.3 Comply with the SRI values for cool roofs in Table A4.1.6.5(1).
  - 1.3 Comply with at least two elective measures selected from Division A4.1.
2. From Division A4.2, Energy Efficiency.
  - 1.1 Exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards by 15%.
  - 1.2 Comply with at least four elective measures selected from Division A4.2.
3. From Division A4.3, Water Efficiency and Conservation.
  - 1.1 Comply with the reduced flow rate for kitchen sink faucets in Section A4.3.3.1
  - 1.2 Comply with the Tier 1 potable water use reduction for landscape irrigation design in Section A4.3.4.4.
  - 1.3 Comply with at least one elective measure selected from Division A4.3.
4. From Division A4.4, Material Conservation and Resource Efficiency.
  - 1.1 Comply with the 20% cement reduction requirements in Section A4.4.3.2.
  - 1.2 Comply with the 10% recycled content requirements in Section A4.4.5.3.
  - 1.3 Comply with the 65% reduction in construction waste in Section A4.4.8.1.
  - 1.4 Comply with at least two elective measures selected from Division A4.4.
5. From Division A4.5, Environmental Quality.
  - 1.1 Comply with the 80% resilient flooring systems requirements in Section A4.5.2.
  - 1.2 Comply with the thermal insulation requirements for Tier 1 in Section A4.5.4.3.
  - 1.3 Comply with at least one elective measure selected from Division A4.3.

**Note:** The Residential Application Checklist contained in Section A4.6.2 may be used to show which elective measures are selected.

**A4.6.1.5 Tier 2.** To achieve Tier 2, status a project must comply with the following:

**Note:** The measures necessary to achieve Tier 2 status are very stringent. Cities, counties and cities and counties considering adoption of Tier 2 as mandatory should carefully consider the stringency of each measure and ensure that the measures are achievable in their location.

**A4.6.1.5.1 Mandatory measures for Tier 2.** The project shall meet or exceed all of the mandatory measures in Chapter 4, Divisions 4.1 through 4.5 and Chapter 7 as applicable.

**A4.6.1.5.2 Prerequisite and elective measures for Tier 2.** In addition to the mandatory measures, compliance with the following prerequisite and elective measures from Appendix A4 is also required to achieve Tier 2 status.

1. From Division A4.1, Planning and Design.
  - 1.1 Comply with the topsoil requirements for Tier 1 and Tier 2 in Section A4.1.6.3.
  - 1.2 Comply with the 30% permeable paving requirements in Section A4.1.6.4.
  - 1.3 Comply with the SRI values for cool roofs in Table A4.1.6.5(2).
  - 1.3 Comply with at least four elective measures selected from Division A4.1.
2. From Division A4.2, Energy Efficiency.
  - 1.1 Exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards by 15%.
  - 1.2 Comply with at least six elective measures selected from Division A4.2.
3. From Division A4.3, Water Efficiency and Conservation.
  - 1.1 Comply with the Tier 1 reduced flow rate for kitchen sink faucets in Section A4.3.3.1
  - 1.2 Comply with the Tier 2 dishwasher requirements in Section A4.3.3.1.
  - 1.3 Comply with the Tier 2 potable water use reduction for landscape irrigation design in Section A4.3.4.4.
  - 1.4 Comply with at least two elective measure selected from Division A4.3.

4. From Division A4.4, Material Conservation and Resource Efficiency.
  - 1.1 Comply with the 25% cement reduction requirements in Section A4.4.3.2.
  - 1.2 Comply with the 15% recycled content requirements in Section A4.4.5.3.
  - 1.3 Comply with the 75% reduction in construction waste in Section A4.4.8.1.
  - 1.4 Comply with at least four elective measures selected from Division A4.4.

5. From Division A4.5, Environmental Quality.
  - 1.1 Comply with the 90% resilient flooring systems requirements in Section A4.5.2.
  - 1.2 Comply with the thermal insulation requirements for Tier 1 and Tier 2 in Section A4.5.4.3.
  - 1.3 Comply with at least one elective measure selected from Division A4.3.

**Note:** The Residential Application Checklist contained in Section A4.6.2 may be used to show which elective measures are selected.

**NOTE:**

Authority Cited: Health and Safety Code Sections 17040, 17921, 17921.3, 17921.4, 17922, 18300, 18865, 18944.11 and 19990; and Government Code Sections 12955.1.

Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17995.5, 18630, 18640, 18690, 18873.1, 18873.2, 18873.4 and 19960 through 19997; and Government Code Sections 12955.1 and 12955.1.

**Rationale for change:**

HCD proposes to amend these sections based on comments received. HCD received comments stating it was difficult to establish the Tier requirements using only the Application Checklist. HCD is proposing this revision to ensure the code user can easily determine the Tier prerequisites and electives and to provide consistency. The revision of this section also reflects proposed electives changes made to other sections in this document. HCD is also proposing to modify the number of electives for Tier 2. The Planning and Design electives have been reduced from five to four. The Energy Efficiency electives have been reduced from eight to six and the Material Conservation and Resource Efficiency electives have been reduced from five to four. In the Planning and Design category, commenter's expressed concern that the Tier 2 measures are too stringent in areas that are already heavily regulated by other entities. Commenters also stated that some of these measures are not available to them because the time to implement them has passed before the builder or homeowner acquired the land or individual lot. In the Energy Efficiency category, commenters stated that the combination of 8 electives and a 30% increase above California's Energy Code was too stringent and costly. Commenters stated that just getting to 30% will be difficult enough and would require the inclusion of several of the elective measures. Commenters are concerned about the combination of the 2008 California Energy Code, which will become effective January 1, 2010 and is approximately 20% more stringent than the current California Energy Code, the requirements and additional 30% stringency for Tier 2 and then the additional elective standards. HCD is also concerned about the cumulative effect and has chosen to accept the suggestion of the commenters to reduce the number of elective measures from eight to six. HCD has also received requests to lower the elective requirements in the Material Conservation and Resource Efficiency category and has decided to accept this comment. Commenters expressed concern that due to the limited number of elective choices it would be difficult for many construction projects to comply with the requirement for five electives without negatively altering the construction method just to comply with the electives. An example of this would be a roof or floor design that could be more effectively constructed with standard lumber vs. trusses or composite materials. A balancing consideration expressed by commenters is that California is currently experiencing the worst economic conditions for new housing construction in over 50 years. Considering this and the fact that many of the mandatory requirements, prerequisites and electives represent new or relatively new compliance concepts for homeowners, builders and the enforcement community, HCD felt it was prudent to provide a meaningful yet manageable selection of electives which would provide substantial benefit without creating obstacles in the recovery of the housing industry in California.

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