

**REVISED EXPRESS TERMS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
REGARDING THE CHANGES TO THE
2010 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11
(HCD 01/10)**

The Department of Housing and Community Development (HCD) proposes to make necessary changes to the 2010 edition of the California Green Building Standards Code (CGBC), also known as CALGreen, as presented on the following pages:

LEGEND FOR EXPRESS TERMS:

1. **Existing California text or 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 **Repealed text:** All language shown in ~~strikeout~~.
 3. **Amended, adopted or repealed language after public hearing:** All such language shown in double underline or ~~double-strikeout~~.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. HCD proposes to amend Section 4.408.2 as follows:

**SECTION 4.408
CONSTRUCTION WASTE REDUCTION,
DISPOSAL AND RECYCLING**

4.408.2 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:~~ Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be ~~accessible~~ available during construction for examination by the enforcing agency.

1. ~~Identifies~~ Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. ~~Specifies~~ Specify if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream) for transportation to a diversion facility.
3. ~~Identifies the~~ Identify diversion facility facilities where the construction and demolition waste material collected will be taken.
4. ~~Identifies~~ Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. ~~Specifies~~ Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

NOTE: Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

Rationale for change:

HCD proposes an amendment to Section 4.408.2 based on a stakeholder comment recommending the term “available” replace the word “accessible.” This change clarifies that the construction waste management plan that shall be obtainable or on hand for review would not be interpreted as “accessible” as related to requirements for persons with disabilities. This proposal is a nonsubstantive editorial correction and has no change in regulatory effect from the originally proposed amendment.

2. HCD proposes to amend Section 4.506.1 as follows:

SECTION 4.506 INDOOR AIR QUALITY AND EXHAUST

4.506.1 Bathroom exhaust fans. Mechanical exhaust fans which exhaust directly from bathrooms shall comply with the following: Each bathroom shall be mechanically ventilated and shall comply with the following:

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidistat humidity control which shall be readily accessible.
 - ~~1. Humidistat Humidity controls shall be capable of adjustment between a relative humidity range of equal to or less than 50 to percent, but shall not exceed 80 percent. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in).~~
 - a. Humidity controls shall be capable of adjustment between a relative humidity range of \leq 50 percent to a maximum of 80 percent. A humidity control may utilize manual or automatic means of adjustment.
 - b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in).

Notes:

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower, or tub/shower combination.
2. Lighting integral to bathroom exhaust fans shall comply with the *California Energy Code*.

NOTE: Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

Rationale for change:

HCD proposes an editorial amendment to Section 4.506.1 based on comments received from stakeholders and industry regarding the adjustability of humidity controls for fan operation, maximum humidity level setpoint, and fan control methods. This editorial change clarifies that the capability of adjustment satisfies the requirement. The existing regulation, which took effect on January 1, 2011, specifies that the maximum humidity level setpoint of the control shall not exceed 80 percent and this proposed amendment does not change that requirement. The amendment also clarifies that adjustment can be achieved by manual or automatic means. There is no change in regulatory effect from the originally proposed amendment.

3. HCD proposes to amend Sections A4.106.6, A4.106.6.1, A4.106.6.1.1, A4.106.2 and A4.106.6.2.1 of Appendix A4 as follows:

~~**A4.106.6. Electric vehicle charging.** Provide facilities meeting Section 406.7 (Electric Vehicle) of the California Building Code and as follows:~~

~~**A4.106.6.1 Dedicated electric vehicle supply equipment circuit.** For each single family residence, circuit breaker(s), conduit and wiring for a 240VAC, 40 amp dedicated circuit shall be installed from the residence service panel and terminate within 5 feet of a residence's parking area (garage, carport, driveway), to accommodate the future installation of residential electric vehicle supply equipment.~~

~~**Note:** Utilities may have additional options related to supply metering and should be consulted prior to installation.~~

~~**A4.106.6.1.1 Labeling requirement.** At the service panel and receptacle, a label shall be provided as follows: "EV READY."~~

~~**A4.106.6.2 Electric vehicle parking stalls in multi-family residences.** For parking stalls in shared parking areas that are for use by owners or occupants of multi-family dwelling units, ten percent (10%) of all parking~~

~~stalls, rounded up to the nearest whole number, shall have the capability for supporting electric vehicle supply equipment.~~

~~To accommodate electric vehicle charging at electric vehicle parking stalls, at a minimum, circuit breakers, conduit and dedicated circuit for 208/240VAC, 40 amp shall be installed from the electric service panel to each electric vehicle parking stall. Each circuit shall terminate within five feet of each electric vehicle parking stall. The electric service panel shall have sufficient capacity for simultaneous charging at full rated amperage of electrical vehicles at each reserved stall.~~

~~**Note:** Utilities may have additional options related to supply metering and should be consulted prior to installation.~~

~~**A4.106.6.2.1 Labeling requirement.** At the service panel and parking stall, a label shall be provided as follows: "EV READY."~~

A4.106.6. Electric vehicle (EV) charging. Dwellings shall comply with the following requirements for the future installation of electric vehicle supply equipment (EVSE).

A4.106.6.1 One and two-family dwellings. Install a listed raceway to accommodate a dedicated branch circuit. The raceway shall not be less than trade size 1. The raceway shall be securely fastened at the main service or subpanel and shall terminate in close proximity to the proposed location of the charging system into a listed cabinet, box or enclosure. Raceways are required to be continuous at enclosed or concealed areas and spaces. A raceway may terminate in an attic or other approved location when it can be demonstrated that the area is accessible and no removal of materials is necessary to complete the final installation.

Exception: Other pre-installation methods approved by the local enforcing agency that provide sufficient conductor sizing and service capacity to install Level 2 EVSE at its maximum operating ampacity.

Note: Utilities and local enforcing agencies may have additional requirements for metering and EVSE installation, and should be consulted during the project design and installation.

A4.106.6.1.1 Labeling requirement. A label stating "EV CAPABLE" shall be posted in a conspicuous place at the service panel or subpanel and next to the raceway termination point.

A4.106.6.2 Multi-family dwellings. At least 3 percent of the total parking spaces, but not less than one, shall be capable of supporting future electric vehicle supply equipment (EVSE).

A4.106.6.2.1 Single charging space required. When only a single charging space is required, install a listed raceway capable of accommodating a dedicated branch circuit. The raceway shall not be less than trade size 1. The raceway shall be securely fastened at the main service or subpanel and shall terminate in close proximity to the proposed location of the charging system into a listed cabinet, box or enclosure.

Exception: Other pre-installation methods approved by the local enforcing agency that provide sufficient conductor sizing and service capacity to install Level 2 EVSE at its maximum operating ampacity.

A4.106.6.2.2. Multiple charging spaces required. When multiple charging spaces are required, plans shall include the location(s) and type of the EVSE, raceway method(s), wiring schematics and electrical calculations to verify that the electrical system has sufficient capacity to simultaneously charge all the electrical vehicles at all designated EV charging spaces at their full rated amperage. Plan design shall be based upon Level 2 EVSE at its maximum operating ampacity. Only underground raceways and related underground equipment are required to be installed at the time of construction.

Note: Utilities and local enforcing agencies may have additional requirements for metering and EVSE installation, and should be consulted during the project design and installation.

A4.106.6.2.3 Labeling requirement. A label stating "EV CAPABLE" shall be posted in a conspicuous place at the service panel or subpanel and the EV charging space.

NOTE: Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

Rationale for change:

HCD proposes the amendment of Section A4.106.6 after much discussion with state agencies, stakeholders, manufacturers, enforcing agencies, and the building industry. On May 17, 2011, midway through the 45-day public comment period, HCD held an interested parties work group to address the proposed Express Terms and solicit additional input. HCD's initial proposal was based on language provided by the California Air Resources Board. After receiving additional comments and further internal review, HCD proposes to make the following modifications to the initial proposal.

In the opinion of many stakeholders, HCD needs to provide more flexibility in the proposed regulations. A pre-wired dedicated 40A circuit is sufficient for the future charging of some vehicles, but not nearly all. Additionally, the language as initially proposed did not provide flexibility to builders and could limit a consumer's choice in the purchase of a new electric vehicle. The requirement for a pre-wired 40A dedicated branch circuit can create additional expenses necessary for compliance with the California Electrical Code. Based upon load calculations completed by HCD, installation of a 40A branch circuit would generally require upgrading the electrical service panel from 200A to 400A in homes that are 2000 sq. ft. and larger. The installation of a trade size 1 raceway is an economical method that allows consumers and builders more options for installation of Electric Vehicle Supply Equipment (EVSE). It would not require advanced load calculations or an expensive service panel upgrade. Trade size 1 raceway is adequate for installation of a 40A branch circuit, but also allows for branch circuits larger than 40A. Installation of some Level 3 EVSE's may also be possible. The new language allows other pre-installation methods to be utilized, including pre-wiring, if sufficient conductors and service capacity are provided, and clarifies that the raceway need not be continuous in accessible locations such as attic spaces, crawl spaces, and open walls.

The initial proposal required at least 10 percent of the parking spaces in multi-family dwellings to be capable of supporting future EVSE. There was much discussion that this number was too high. HCD received written comment from the California Energy Commission (CEC) suggesting that three percent of parking spaces be EV ready. Based upon the current roll-out of electric vehicles, HCD agreed with the CEC proposal. Three percent is an acceptable starting point. As more vehicles enter the market in the coming decade, HCD can revisit the requirements.

For multi-family dwellings, additional considerations such as ownership, infrastructure, location, number and type of charging spaces were taken into account. The measures allow more flexibility for design; however, a justification of sufficient electrical system capacity is required prior to construction. Pre-installation of raceways without an adequately designed electrical system would result in additional expenses for homeowners or tenants who may want to install an EVSE at a future date. Only underground raceways and related equipment are required at the time of initial construction.

4. HCD proposes to amend Sections A4.405.3, A4.405.3.1, A4.405.3.1.1, A4.405.3.1.3, A4.405.3.1.4, A4.405.3.2 and A4.405.4 of Appendix A4 as follows:

**SECTION A4.405
MATERIAL SOURCES**

A4.405.3 Recycled content. Use materials, equivalent in performance to virgin materials, with postconsumer or preconsumer recycled content value (RCV) for a minimum of 10 percent of the total value, based on estimated cost of materials on the project. Provide documentation as to the respective values.

Tier 1. Not less than a 10 percent recycled content value.

Tier 2. Not less than a 15 percent recycled content value.

Note: Sources and recycled content of some recycled materials can be obtained from CalRecycle.

A4.405.3.1 Determination of recycled content value

(RCV). The following equation shall be used to calculate recycled content value.

$$RCV = (\text{percent PC} \times \text{material cost}) + 0.5 (\text{percent PI} \times \text{material cost})$$

Notes:

1. PC means post consumer waste
2. PI means post industrial waste

A4.405.3 Recycled content and renewable materials. Comply with the requirements for recycled content in Section A4.405.3.1, ~~or a combination of recycled content and renewable materials in Section A4.405.3.2.~~

A4.405.3.1 Recycled content. Use materials, equivalent in performance to virgin materials with a total (combined) recycled content value (RCV) of:

Tier 1. The RCV shall not be less than 10 percent of the total material cost of the project.
Required Total RCV (dollars) = Total Material Cost (dollars) x 10 percent (Equation A4. 4-1)

Tier 2. The RCV shall not be less than 15 percent of the total material cost of the project.
Required Total RCV (dollars) = Total Material Cost (dollars) x 15 percent (Equation A4. 4-2)

For the purposes of this section, materials used as components of the structural frame shall not be used to calculate recycled content. The structural frame includes the load bearing structural elements, such as wall studs, plates, sills, columns, beams, girders, joists, rafters, and trusses.

Notes:

1. Sample forms which allow user input and automatic calculation are located at www.hcd.ca.gov/CALGreen.html and may be used to simplify documenting compliance with this section and for calculating recycled content value of materials or assembly products.
2. Sources and recycled content of some recycled materials can be obtained from CalRecycle if not provided by the manufacturer.

A4.405.3.1.1 Total material cost. Total material cost is the total estimated or actual cost of materials and assembly products used in the project. The required total recycled content value for the project (in dollars) shall be determined by Equation A4.4-1 or Equation A4.4-2.

Total material cost shall be calculated by using one of the methods specified below:

1. Simplified method. To obtain the total cost of the project multiply the square footage of the residential structure by the square foot valuation established pursuant to Table A4.405.3 or as established by the enforcing agency. The total material cost is 45 percent of the total cost of the project. Use Equations A4.4-3A or A4.4-3B to determine total material costs using the simplified method.

Total material costs =

Project square footage x square foot valuation x 45 percent (Equation A4.4-3A)

Total estimated or actual cost of project x 45 percent (Equation A4.4-3B)

**TABLE A4.405.3
SQUARE FOOT VALUATION**

<u>Type of Structure</u>	<u>Square Foot Construction Costs</u>
Single family detached Residential, one- and two-family	\$92.94 \$101.90
Multi family attached Residential, multiple family	\$101.90 \$92.94

Note: Minimum square foot construction costs for residential single-family; and multi-family dwellings are from the International Code Council's (ICC) *Building Valuation Data (BVD)*-- February 2011.

2. Detailed method. To obtain the total cost of the project, Add the estimated and/or actual costs of materials used for the project including the structure (steel, concrete, wood or masonry); the enclosure (roof, windows, doors and exterior walls); the interior walls, ceilings and finishes (gypsum board, ceiling tiles, etc.). The total estimated and/or actual costs shall not include fees, labor and installation costs, overhead, appliances, equipment, furniture or furnishings.

A4.405.3.1.3 Determination of recycled content value of materials (RCV_M). The recycled content value of each material (RCV_M) is calculated by multiplying the cost of material, as defined by the recycled content. See Equations A4.4-6 and A4.4-7.

$$RCV_M(\text{dollars}) = \text{Material cost (dollars)} \times RC_M(\text{percent}) \quad \text{(Equation A4. 4-6)}$$

$$RC_M(\text{percent}) = \text{Post-consumer content percentage} + (\frac{1}{2}) \text{ Pre-consumer content percentage} \quad \text{(Equation A4. 4-7)}$$

Notes:

1. If the post-consumer and pre-consumer recycled content is provided in pounds, Equation A4.4-7 may be used, but the final result (in pounds) must be multiplied by 100 to show RC_M as a percentage.

~~2. If the manufacturer reports total recycled content of a material, in lieu of separately reporting pre-consumer and post-consumer values, the reported value shall be inserted directly into Equation A4.4-6.~~

2. If the manufacturer reports total recycled content of a material as one percentage in lieu of separately reporting pre-consumer and post-consumer values, one-half of the total shall be considered pre-consumer recycled material and one-half of the total shall be considered post-consumer recycled material.

A4.405.3.1.4. Determination of recycled content value of assemblies – (RCV_A). Recycled content value of assemblies is calculated by multiplying the total cost of assembly by the total recycled content of the assembly (RC_A), and shall be determined by Equation A4.4-8.

$$RCV_A(\text{dollars}) = \text{Assembly cost (dollars)} \times \text{Total } RC_A(\text{percent}) \quad \text{(Equation A4.4.8)}$$

If not provided by the manufacturer, Total RC_A (percent) is the sum (Σ) of the Proportional Recycled Content (PRC_M) of each material in the assembly. RC_A shall be determined by Equation A4.4-9.

$$RC_A = \sum PRC_M \quad \text{(Equation A4.4-9)}$$

PRC_M of each material may be calculated by one of two methods using the following formulas:

Method 1: Recycled content (Post-consumer and Pre-consumer) of each material provided in percentages

$$PRC_M(\text{percent}) = \text{Weight of material (percent)} \times RC_M(\text{percent}) \quad \text{Equation A4.4-10}$$

$$\text{Weight of material (percent)} = [\text{Weight of material (lbs)} \div \text{Weight of assembly (lbs)}] \times 100 \quad \text{(Equation A4.4-11)}$$

$$RC_M(\text{percent}) = \text{Post-consumer content percentage} + (\frac{1}{2}) \text{ Pre-consumer content percentage} \quad \text{(See Equation A4.4-7)}$$

Method 2: Recycled content (Post-consumer and Pre-consumer) provided in pounds

$$PRC_M(\text{percent}) = [RC_M(\text{lbs}) \div \text{Weight of material (lbs)}] \times 100 \quad \text{(Equation A4.4-12)}$$

$$RC_M(\text{lbs}) = \text{Post-consumer content (lbs)} + (\frac{1}{2}) \text{ Pre-consumer content (lbs)} \quad \text{(Equation A4.4-13)}$$

~~NOTE: If the manufacturer reports total recycled content of a material, in lieu of separately reporting pre-consumer and post-consumer values, the reported value shall be inserted directly into Equation A4.4-10 and Equation A4.4-12, respectively.~~ If the manufacturer reports total recycled content of a material as one percentage in lieu of separately reporting pre-consumer and post-consumer values, one-half of the total shall be considered pre-consumer recycled material and one-half of the total shall be considered post-consumer recycled material.

~~**A4.405.3.2 Use of renewable building materials.** Use renewable materials or products and materials with recycled content in compliance with the following:~~

~~**Tier 1.** Renewable building materials shall not be less than 8 percent and recycled content value (RCV) shall not be less than 5 percent of the total material cost of the project.~~

~~**Tier 2.** Renewable building materials shall not be less than 8 percent and recycled content value (RCV) shall not be less than 10 percent of the total material cost of the project.~~

Notes:

- ~~1. For purposes of this section, renewable building materials are materials made from forest products that include solid sawn and structural sawn lumber used in the structural frame but do not include material made from pre-consumer and/or post-consumer content.~~
- ~~2. Total material cost may be calculated by using the methods established in Section A4.405.3.1.1.~~

A4.405.4 Use of building materials from rapidly renewable sources. One or more of the following materials manufactured from rapidly renewable sources or agricultural by-products is used:

1. Insulation
2. Bamboo or cork
3. Engineered wood products
4. Agricultural based products
5. Solid wood products
6. Other products acceptable to the enforcing agency

Note: The intent of this section is to utilize building materials and products which are typically harvested within a 10-year or shorter cycle.

NOTE: Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

Rationale for change:

HCD proposes an amendment to Section A4.405 based on comments received during the 45-day public comment period and during an internal review as follows:

- Clarified Section A4.405.3.1 so that recycled content calculations do not include components of the building's structural frame as specified, thereby avoiding a possible inferred regulatory preference for or against building materials used in the structural frame that may or may not have recycled content.
- Corrected Table A4.405.3 to reflect the accurate description of the structure types identified in the ICC Building Valuation Data table and a transposition of valuations. There is no intended change in regulatory effect.
- Deleted Section A4.405.3.2, which proposed combined levels (percentages) of recycled content value and renewable building materials for Tiers 1 and 2 due to revisions in Section A4.405.3.1.
- Revised the title of Section A4.405.3 accordingly and revised text to address only recycled content. Since Section A4.405.3.2 is deleted, the clarifications proposed in Section A4.405.3 no longer may be interpreted to promote building materials, including recycled content vs. renewable building materials in the structural frame of buildings.
- Clarified Section A4.405.3.1.3 "Note 2" and Section A4.305.3.1.4 "Note" so that when recycled content is reported as a single value in lieu of separate values for pre-consumer and post-consumer recycled content, the single value shall be considered as half pre-consumer and half post-consumer recycled content. This change provides a more equitable calculation of recycled content when compared to manufacturers that reported complete values for both pre-consumer and post-consumer recycled content. (The original amendment would have required a single reported recycled content value to be evaluated as 100 percent post-consumer recycled content value.)
- Editorial and grammatical nonsubstantive changes are made in Section A4.405.3.1.1(2) and Section A4.405.3.1.4. These corrections have no intended change in regulatory effect.
- Section A4.405.4 is amended to delete references to engineered products, including wood, and to solid wood products as a building material from a rapidly renewable source. This section specifies that building materials and products from rapidly renewable sources are typically harvested within a 10-year or shorter cycle and most wood or lumber products are harvested outside this timeframe.

5. HCD proposes to amend Section A4.601.4.2 of Appendix A4 as follows:

SECTION A4.601 GENERAL

A4.601.4.2 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 protection requirements in Section A4.106.2.3.
 - 1.2 Comply with the 20 percent permeable paving requirements in Section A4.106.4.
 - 1.3 Comply with the cool roof requirements in Section A4.106.5.
 - 1.4 Comply with at least two elective measures selected from Division A4.1.
2. From Division A4.2, Energy Efficiency.
 - 2.1 Exceed the 2010 California Energy Code requirements, ~~based on the 2008 Energy Efficiency Standards~~ by 15 percent.
 - 2.2 Comply with at least four elective measures selected from Division A4.2.
3. From Division A4.3, Water Efficiency and Conservation.
 - 3.1 Comply with the reduced flow rate for kitchen sink faucets in Section A4.303.1.
 - ~~3.2 Comply with the Tier 1 potable water use reduction for landscape irrigation design in Section A4.304.4.~~
 - ~~3.3 Comply with at least one elective measure selected from Division A4.3.~~
 - 3.2 Comply with the landscape irrigation water budget requirement in Section A4.304.3.
 - 3.3 Comply with the Tier 1 potable water use reduction for landscape irrigation design in Section A4.304.4.
 - 3.4 Comply with at least one elective measure selected from Division A4.3.
4. From Division A4.4, Material Conservation and Resource Efficiency.
 - 4.1 Comply with the 20 percent cement reduction requirements in Section A4.403.2.
 - 4.2 Comply with the 10 percent recycled content requirements in Section A4.405.3.1; ~~or 8 percent renewable materials and 5 percent recycled content requirement in Section A4.405.3.2.~~
 - 4.3 Comply with the 65 percent reduction in construction waste in Section A4.408.1.
 - 4.4 Comply with at least two elective measures selected from Division A4.4.
5. From Division A4.5, Environmental Quality.
 - 5.1 Comply with the 80 percent resilient flooring systems requirements in Section A4.504.2.
 - 5.2 Comply with the thermal insulation requirements for Tier 1 in Section A4.504.3.
 - 5.3 Comply with at least one elective measure selected from Division A4.5.

Note: The Residential Occupancies Application Checklist contained in Section A4.602 may be used to show which elective measures are selected.

NOTE: Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

Rationale for change:

HCD proposes an amendment to Section A4.601.4.2(4.2) to reflect the proposed deletion of Section A4.405.3.2. This change is necessary to provide consistency with the Tier 1 requirements in revised Section A4.405.3.

6. HCD proposes to amend Section A4.601.5.2 of Appendix A4 as follows:

A4.601.5.2 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 protection requirements for Tier 1 and Tier 2 in Section A4.106.2.3.
 - 1.2 Comply with the 30 percent permeable paving requirements in Section A4.106.4.
 - 1.3 Comply with the cool roof requirements in Section A4.106.5.
 - 1.4 Comply with at least four elective measures selected from Division A4.1.
2. From Division A4.2, Energy Efficiency.
 - 2.1 Exceed the 2010 California Energy Code requirements, ~~based on the 2008 Energy Efficiency Standards~~ by 30 percent.
 - 2.2 Comply with at least six elective measures selected from Division A4.2.
3. From Division A4.3, Water Efficiency and Conservation.
 - 3.1 Comply with the Tier 1 reduced flow rate for kitchen sink faucets in Section A4.303.1.
 - 3.2 Comply with the Tier 2 dishwasher requirements in Section A4.303.1.
 - ~~3.3 Comply with the Tier 2 potable water use reduction for landscape irrigation design in Section A4.304.4.~~
 - ~~3.4 Comply with at least two elective measures selected from Division A4.3.~~
 - 3.3 Comply with the landscape irrigation water budget requirement in Section A4.304.3.
 - 3.4 Comply with the Tier 2 potable water use reduction for landscape irrigation design in Section A4.304.4.
 - 3.5 Comply with at least two elective measures selected from Division A4.3.
4. From Division A4.4, Material Conservation and Resource Efficiency.
 - 4.1 Comply with the 25 percent cement reduction requirements in Section A4.403.2.
 - 4.2 Comply with the 15 percent recycled content requirements in Section A4.405.3.1; ~~or 8 percent renewable materials and 10 percent recycled content requirement in Section A4.405.3.2.~~
 - 4.3 Comply with the 75 percent reduction in construction waste in Section A4.408.1.
 - 4.4 Comply with at least four elective measures selected from Division A4.4.
5. From Division A4.5, Environmental Quality.
 - 5.1 Comply with the 90 percent resilient flooring systems requirements in Section A4.504.2.
 - 5.2 Comply with the thermal insulation requirements for Tier 1 and Tier 2 in Section A4.504.3.
 - 5.3 Comply with at least one elective measure selected from Division A4.5.

Note: The Residential Occupancies Application Checklist contained in Section A4.602 may be used to show which elective measures are selected.

NOTE: Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

Rationale for change:

HCD proposes an amendment to Section A4.601.5.2(4.)(4.2) to reflect the proposed deletion of Section A4.405.3.2. This change is necessary to provide consistency with the Tier 2 requirements in revised Section A4.405.3.

7. HCD proposes to amend Section A4.602 of Appendix A4 as follows:

**SECTION A4.602
RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST**

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES		VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD			
	Mandatory	Prerequisites and electives ¹		Enforcing Agency <input type="checkbox"/> All	Installer or Designer <input type="checkbox"/> All	Third party <input type="checkbox"/> All
		Tier 1	Tier 2			
4.106.3 The site shall be planned and developed to keep surface water away from buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows <u>to keep water from entering buildings.</u>	<input checked="" type="checkbox"/>					
...						
A4.106.6 Electric vehicle charging. <u>Provide capability for dedicated electrical vehicle supply equipment in single-family and multi-family structures.</u>		<input type="checkbox"/> —	<input type="checkbox"/> —			
<p>A4.211.1 Install a solar photovoltaic (PV) system in compliance with the California Energy Commission New Solar Homes Partnership (NSHP).^{1,2,3} Install energy efficiency measures meeting either Tier I or Tier II below.</p> <p>Tier 1. Exceed the <u>2010 California Energy Code</u> requirements, based on the 2008 Energy Efficiency Standards requirements by 15 percent.</p> <p>Tier 2. Exceed the <u>2010 California Energy Code</u> requirements, based on the 2008 Energy Efficiency Standards requirements by 30 percent.</p> <p>Solar water heating may be used to assist in meeting the energy efficiency requirements of either Tier I or Tier II.</p> <p>1. In addition, for either Tier I or II, each appliance provided by the builder must be ENERGY STAR if an ENERGY STAR designation is applicable for that appliance.</p> <p>2. <u>Tier II requires a 30 percent reduction in the building's space cooling (air conditioning) energy compared to the 2010 California Energy Code.</u></p> <p>3. Information on NSHP incentives available through the California Energy Commission may be obtained at the "Go Solar California" website: www.GoSolarCalifornia.ca.gov/nshp/index.html.</p>		<input type="checkbox"/>			<input checked="" type="checkbox"/> — <input checked="" type="checkbox"/> —	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
...						

<p>2. A construction waste management plan per <u>Section 4.408.2</u>; or</p> <p>3. A waste management company per <u>Section 4.408.3</u>; or</p> <p>4. The waste stream reduction alternative per <u>Section 4.408.4</u>.</p>						
<p>4.408.2 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.</p> <p>...</p>	<input checked="" type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>4.504.4 50 percent of floor area receiving resilient flooring shall comply with the VOC-emission limits defined in the Collaborative for High Performance Schools (CHPS) <u>Low-emitting Materials List</u> or be certified under the Resilient Floor Covering Institute (RFCI) FloorScore program; or meet CA Dept. of Public Health, "<u>Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers</u>", Version 1.1, February 2010 (also known as Specification 01350.)</p> <p>...</p>	<input checked="" type="checkbox"/>					
<p>...</p>						
<p>4.507.2 Duct systems are sized, designed, and equipment is selected using the following methods:</p> <p>1. Establish heat loss and heat gain values according to <u>ANSI/ACCA 2 Manual J - 2004</u> or equivalent.</p> <p>2. Size duct systems according to <u>ANSI/ACCA 1 29-D (Manual D) - 2009</u> or equivalent.</p> <p>3. Select heating and cooling equipment according to <u>ANSI/ACCA 3 36-S (Manual S) - 2004</u> or equivalent.</p>	<input checked="" type="checkbox"/>					

NOTE: Authority cited: Health and Safety Code Sections 17921, 17922 and 19990. Reference: Health and Safety Code Health and Safety Code Sections 17000 through 17060, 17910 through 17990 and 19960 through 19997.

Rationale for change:

HCD proposes an amendment to Section A4.602 "Residential Occupancies Application Checklist", A4.405.3, to reflect the proposed deletion of Section A4.405.3.2, which described optional requirements for Tier 1 and Tier 2. This change is necessary to provide consistency with the Tier 1 and Tier 2 requirements in revised Section A4.405.3, Section A4.601.4.2 (4.)(4.2) and Section A4.601.5.2 (4.)(4.2).