

**FINAL STATEMENT OF REASONS
FOR
PROPOSED 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 Administrative Procedure Act requires that every agency shall maintain a file of each rulemaking that shall be deemed to be the record for that rulemaking proceeding. The rulemaking file shall include a final statement of reasons. The Final Statement of Reasons shall be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action:

UPDATES TO THE INITIAL STATEMENT OF REASONS

(Government Code Section 11346.9(a)(1) requires an update of the information contained in the initial statement of reasons. If update identifies any data or any technical, theoretical or empirical study, report, or similar document on which the state agency is relying that was not identified in the initial statement of reasons, the state agency shall comply with Government Code Section 11347.1)

No data or any technical, theoretical or empirical study, report, or similar document on which the state agency is relying has been added to the rulemaking file that was not identified in the Initial Statement of Reasons.

The Department of Housing and Community Development (HCD) has made non-substantive, grammatical, or editorial language revisions to the following sections after the 45-day comment period that ended on November 16, 2009: Preface, Sections 101.7.1 and 4.1.6.2, Application Checklist Section 4.5.4.2.3, Sections 4.5.4.3, 702.1, A4.5.4.2 and A4.5.4.3.

HCD has made sufficiently related changes and/or editorial corrections to the following sections after the 45-day comment period that ended on November 16, 2009: Sections 4.1.4.1, 4.1.4.1.1, 4.2.1.1, 4.3.4.1, 4.4.8.1, 4.4.8.2, 4.4.10.1, 4.5.3.1, 4.5.4.5, 4.5.6.1, Construction Waste Management (CWM) form, Sections A4.1.6.2.3, A4.1.6.2.4, Application Checklist Sections A4.1.6.2.3 and A4.1.6.2.4, Sections A4.1.6.4, A4.1.6.5, Tables A4.1.6.5(1) and A4.1.6.5(2), Sections A4.1.6.5.1, A4.3.3.1, A4.3.3.2, Application Checklist Sections A4.3.3.1 and A4.3.3.2, Section A4.3.2, A4.3.4.4, Application Checklist Section A4.3.4.4, Sections A4.3.4.4.1, A4.4.8.1, A4.4.8.1.1, A4.6.1.2 through A4.6.1.5.2 and Table A4.6.1.4.

HCD has made sufficiently related changes and/or editorial corrections to the following sections after the subsequent 15-day comment period that ended on December 16, 2009: Section A4.1.6.5 and Table A4.1.6.5(2).

No changes were made after the second 15-day comment period that ended on January 4, 2010.

MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS

(Pursuant to Government Code Section 11346.9(a)(2), if the determination as to whether the proposed action would impose a mandate, the agency shall state whether the mandate is reimbursable pursuant to Part 7 of Division 4. If the agency finds that the mandate is not reimbursable, it shall state the reasons for the finding(s))

The Department of Housing and Community Development has determined that the proposed regulatory action would not impose a mandate on local agencies or school districts.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S)

(Government Code Section 11346.9(a)(3))

The following is HCD's summary of and response to comments specifically directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the actions or reasons for making no change:

COMMENTS EM-1 THROUGH EM-16 WERE RECEIVED DURING THE 45-DAY COMMENT PERIOD.

(The text with proposed changes clearly indicated was made available to the public from October 2, 2009, until November 16, 2009.)

NOTE: *The complete text of each comment may be reviewed at the following internet address:*
http://www.bsc.ca.gov/prpsd_changs/pc_09_comment.htm.

1. COMMENTER: Josh Jacobs (**EM-1**)
Technical Information Manager
GREENGUARD Environmental Institute
2211 Newmarket Parkway, #110
Marietta, GA 30067

COMMENT: EM-1, Sections 4.5.4.2.1, 4.5.4.2.2 and 4.5.4.2.3: The commenter requests inclusion of a reference to GREENGUARD Environmental Institute standards for VOC limits.

RESPONSE: HCD acknowledges the comments received pertaining to the proposed California Green Building Code (CGBC). HCD believes that the comments may have merit. However, HCD has chosen to rely on input from the California Air Resources Board (ARB) to incorporate VOC limits consistent with ARB recommendations. These recommendations have been well vetted by ARB and are appropriate for use on a statewide basis. Discussions on VOC limitations have been on-going and have been developed over several meetings with considerable stakeholder input regarding product availability. HCD will take the concerns expressed in this comment under consideration in the development of future rulemaking packages.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

2. COMMENTER: Victoria Rome (**EM-3**)
California Advocacy Deputy Director
National resources Defense Council (NRDC)
111 Sutter Street, 20th Floor
San Francisco, CA 94104

Lauren Navarro
Environmental Defense Fund

COMMENT: EM-3, Part 1: The commenter expresses support for HCD's Part 1 proposal, which clarify rulemaking activities related to development and amendment of the CGBC.

RESPONSE: HCD appreciates the commenter's support for the proposed regulations. No code changes have been proposed to HCD's rulemaking package as a result of this comment.

3. COMMENTER: Bob Raymer (**EM-8**)
California Building Industry Association

COMMENT: EM-8 (A), Sections 4.1.4.1 and 4.1.4.1.1: The commenter requests that these sections be deleted from HCD's proposal because extensive regulation of planning and land use issues are already in place through local jurisdictions throughout the state. The commenter also explained that the two provisions were poorly received by those in attendance at the California Building Industry Association's (CBIA) recent Board of Directors meeting. Many felt these provisions would conflict with on-going local, state and federal programs and the placement of these provisions in the state building standards code was questioned since

most jurisdictions deal with these issues outside of the local building department. There was concern that local building departments would not be prepared to interpret and/or enforce what was viewed as being vague and ambiguous code language.

The commenter also expresses an opinion that this already takes place in the early stages of local review under CEQA and local submittal requirements. The commenter expressed opinion that Identification of “desirable natural resources to be preserved on site” should be performed by planning staff during project planning review, not by the building official as part of the building department plan check and permitting process. The commenter also questioned the ability of building officials not trained in this area to make accurate determinations and judgments.

RESPONSE: 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.

No code changes have been proposed to HCD’s rulemaking package as a result of this comment.

COMMENT: EM-8 (A), Section 4.1.6.2: The commenter requests that these sections be clarified because the term “a plan” is vague and ambiguous and does not lend itself well to consistent review during plan check or inspection in the field.

RESPONSE: HCD accepted this comment and has proposed to make editorial amendments to this section based upon this comment. HCD did not originally propose amendment to this section which was adopted in the 2008 CGBC; however, because 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.

COMMENT: EM-8 (A), Section 4.1.6.3 and the definition of “FRENCH DRAIN”: The commenter requests that the proposed section include a reference to a “drain pipe” as an acceptable example or that HCD edit the definition to clarify that the use of such drains falls within the definition of a FRENCH DRAIN.

RESPONSE: HCD appreciates the comment, but is not proposing any modifications. Section 4.1.6.3, Item 2 includes drainage piping in the general scope of a “water collection and disposal system”. HCD does not believe it is necessary to expand this list to the point that it may be viewed as exclusionary and be interpreted that if a method is not listed, it is not allowed. HCD prefers to maintain the more general language, which would include a drain pipe. In addition, HCD believes typical construction drainage systems often include piping, it is well understood, and there is no need to clarify this further.

COMMENT: EM-8 (A), Section 4.2.1.1: The commenter indicates that individuals (including local code enforcement and agency appointees) have expressed concern and are confused regarding the “15%” reference in this section. The commenter requested that HCD clarify that the mandatory provisions of the CGBC do not require a level of compliance with energy efficiency standards that exceeds that already required by the adoption of Part 6 by the California Energy Commission.

RESPONSE: This section has been the topic of much discussion and has been modified several times during development of the CGBC 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 modifications to this section. This change is editorial and there is no change in regulatory effect.

COMMENT: EM-8 (A), Section 4.3.3.2: The commenter suggests that shower stall designed for more than one person be allowed to meet the maximum flow rates and should not be limited to 2 GPM.

RESPONSE: HCD believes the section is sufficiently clear as written and is not proposing to make any change at this time. Section 4.3.3.2 applies to a single shower served by more than one shower head. In the event a shower space is designed to serve multiple users, the code section would apply to each individual shower fixture. It is HCD's intent that shower fixtures not have several water sources operating at one time unless the total is less than 2.0 gpm. HCD will monitor this section and evaluate the necessity to further clarify it in future rulemakings. However, at this time HCD is not intending to make any revisions.

COMMENT: EM-8 (A), Section 4.3.4.1: The commenter expresses an opinion that HCD should clarify that this section only applies to those portions of the lot for which landscaping is provided and clearly indicate that non-landscaped portions of the lot would be exempt from this requirement. The commenter also expressed concern that new products and methods are constantly being developed that may prove to be more cost effective and conserve more water than weather based irrigation controllers and this requirement may cause builders to overlook other water conserving methods due to the extra cost involved with installing weather based irrigation controllers.

RESPONSE: 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. HCD's intent was not to regulate the design of the landscape in this section, but to provide a requirement that if automatic controllers were provided, they should be capable of delaying the water cycle in the presence of wet weather. Although subscription services which monitor weather data are available, this section does not require that level of sophistication. In addition to subscription to a weather data provider, the requirements of this section can be met with a soil moisture sensor or a rain sensor.

COMMENT: EM-8 (A), Section 4.4.8.1: The commenter expresses an opinion stating there may be longstanding contractual or franchise agreements between a local jurisdiction and a specific waste hauler, which may create a hurdle to cost-effective separation and/or transport of construction waste. The commenter also expressed concern that many local jurisdictions have enacted local ordinances and HCD may want to consider adding a third exception stating that this section applies only when those local agencies do not have ordinances.

RESPONSE: HCD concurs with portions of this comment and acknowledges that long haul distances may be problematic and not feasible. HCD has proposed modification that will allow the enforcing agency and the builder flexibility to find an acceptable alternate when working through difficult logistical situations. HCD has already addressed local ordinances in this section by including language that indicates compliance must be with the requirements of this section or a local ordinance that is more stringent.

COMMENT: EM-8 (A), Section 4.4.8.2: The commenter expresses concern regarding a baseline to determine the amount of waste typically generated per square foot for residential construction.

RESPONSE: HCD's original proposal did not include a baseline calculation and instead was based on the total waste generated at the site. This method is a viable method to calculate waste diversion and is being retained. However, HCD is also proposing modification to allow credit for waste diversion that occurs prior to materials arriving at the jobsite. HCD believes it may become necessary to combine waste diversion methods which reduce the amount of material that is taken to the site with what is removed from 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 has proposed a modification to address this concern. 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.

COMMENT: EM-8 (A), Section 4.4.10.1: The commenter suggests that HCD include language to allow other media than a printed owner's manual.

RESPONSE: HCD concurs with this comment and does not want to limit this requirement to a printed manual. HCD has proposed a modification which will allow the builder and the enforcing agency greater flexibility.

COMMENT: EM-8 (A), Section 4.5.3.1: The commenter suggests that HCD delete this section from the mandatory portion of the CGBC. The commenter feels that the requirement lacks specificity and explains that wood burning fireplaces are not considered to be "green".

RESPONSE: HCD concurs with a portion of this comment and has proposed a modification to this section in order to clarify the intent. In recent years, many Air Quality Control Districts have adopted local requirements which address wood burning. At this time, HCD believes those actions are probably more appropriate than a statewide ban. In addition, adequate time is not available during this rulemaking to properly obtain public input and establish the benefit, necessity and specificity of this proposal and allow for adequate public participation, including designers, builders, air quality experts, stakeholders and the Code Advisory Committee. HCD may take the concerns expressed in this comment under consideration in the development of future rulemaking packages.

COMMENT: EM-8 (A), Section 4.5.4.1: The commenter suggests that HCD cite more methods to comply with this section.

RESPONSE: HCD appreciates the comment and has reviewed this section regarding the appropriateness of including more examples. HCD finds that the most common methods are already included. It is not the intent of any code to limit alternate methods of compliance. Stakeholders have often expressed a desire for some examples to be included as a way to provide guidance. However, extensive lists may be viewed as exclusionary and be interpreted that if a method is not list, it is not allowed. HCD prefers to maintain the original language and is not proposing any change to this section.

COMMENT: EM-8 (A), Sections 4.5.4.4 and 4.5.4.4.1: The commenter questions whether carpet cushions are subject to the requirements of Section 4.5.4.4 and has expressed concerns about the amount of product in the carpet market which meets one of the four requirements listed in this section.

RESPONSE: HCD appreciates the comment and has reviewed this section and determined that revisions are not necessary. According to the Carpet and Rug Institute website, the correct reference for carpet cushion is the green label program as specified in Section 4.5.5.4.1. HCD has done research regarding availability of carpet product meeting the requirements of this section and believes that sufficient product is available. In addition, HCD received information from air quality experts based on the Carpet and Rug Institutes directory that a significant amount of carpet product designed for residential and non-residential applications meet the referenced green plus standard. HCD also believes that although it is not common practice to install commercial grade carpet in residential applications, it should not be prohibited either. Therefore, HCD believes it is appropriate to include references to carpet product which are not typically used in residential applications in order to not restrict its use.

COMMENT: EM-8 (A), Section 4.5.4.5: The commenter expresses concern that this section is not clear in specifying that this provision only applies if resilient flooring is installed. In addition, the commenter feels that HCD needs to provide a definition for resilient flooring.

RESPONSE: HCD appreciates the comment and has reviewed this section and determined that revisions may be necessary to provide clarity. HCD has proposed a change to this section to more clearly communicate the requirements. There is no change in regulatory effect.

COMMENT: EM-8 (A), Section 4.5.5.2: The commenter expresses concern regarding the environmental benefit of a four inch base of aggregate and is questioning the rationale for its inclusion.

RESPONSE: The comment is directed toward measures that have been proposed and approved in prior rulemakings and are, therefore, outside the scope of this rulemaking. However, HCD will respond for clarification. HCD proposed the adoption of these sections to eliminate uncertainty and provide clarity to the code user regarding moisture control and the use of a vapor retarder in slab on grade foundation systems. The California Building Codes are not explicit regarding the type of fill which may be used. The proposal was based on United States Environmental Protection Agency (USEPA) and American Concrete Institute studies which reference a four inch thick base.

COMMENT: EM-8 (A), Section 4.5.5.3: The commenter expresses concern regarding the specified location for moisture readings to be taken.

RESPONSE: The comment is directed toward measures that have been proposed and approved in prior rulemakings and are, therefore, outside the scope of this rulemaking. However, HCD will respond for clarification. HCD adopts sections of the California Building Code which specify maximum levels of moisture in framing materials. Depending on the type of materials, those levels range between 15% and 20%.

However, there was no requirement for moisture content to be verified prior to enclosure of a wall or floor cavities, which can lead to the growth of mold or other biological growth. This section will require moisture content to be verified to the satisfaction of the enforcing agency prior to approval to enclose wall and floor cavities. The specificity of the testing was provided to HCD by lumber industry experts who participated in the last rulemaking process. However, based on this comment, HCD believes the topic does warrant further discussion and will take the concerns expressed in this comment under consideration in the development of future rulemaking packages.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-8 (A), Section 4.5.6.1: The commenter expresses concern that fans which are capable of communication using the building electrical circuit should be included.

RESPONSE: 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). Bathroom fans are often a component of a whole house ventilation system that will either operate continuously or on a programmed schedule and may or may not communicate through the building electrical system. Either is permissible under HCD's current proposal. HCD is not proposing any revision to address this comment.

COMMENT: EM-8 (A), Section 702.2: The commenter expresses support for HCD's proposal regarding special inspection.

RESPONSE: HCD appreciates the supportive comment. HCD is not proposing any revision to address this comment.

COMMENT: EM-8 (B), Section A4.4.8.1: The commenter expresses concern that the diversion percentages are too stringent and should be reduced to 60% and 70%, respectively, for Tier 1 and Tier 2.

RESPONSE: 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.

COMMENT: EM-8 (B), Table A4.6.1.4: The commenter expresses concern that the number of electives contained in the Planning and Design Tier 2 requirements is too stringent.

RESPONSE: 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 to eliminate this Table and provide a summary of the tier requirements in its place.

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. Commenters 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.

COMMENT: EM-8 (B), Table A4.6.1.4: The commenter has expressed concern that the number of electives contained in the Energy Efficiency Tier 2 requirements is too stringent.

RESPONSE: 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 to eliminate this Table and provide a summary of the tier requirements in its place. 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. 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.

COMMENT: EM-8 (B), Table A4.6.1.4: The commenter has expressed concern that the number of electives contained in the Material Resource and Resource Efficiency Tier 2 requirements is too stringent.

RESPONSE: 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 to eliminate this Table and provide a summary of the tier requirements in its place. 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 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. The Material Conservation and Resource Efficiency electives have been reduced from five to four.

COMMENT: EM-8 (B), Application Checklist Section A4.1.4.1: The commenter has asked what type of program qualifies for the educational requirement in this section.

RESPONSE: HCD appreciates the comment. However, the comment does not provide a suggestion or specificity. HCD wanted to keep this measure broad to avoid it becoming burdensome and add yet another layer of regulation. Local enforcing agencies which adopt the tiers may evaluate what qualifies as acceptable training and may provide additional specificity as needed to address their location and needs. HCD's intent was to introduce a training or educational element to the tier portion while allowing builders and the local enforcing agencies flexibility to determine training needs.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-8 (B), Application Checklist Section A4.1.6.2.2: The commenter is of the opinion that in most applications, the same trench may not be allowed because of a prohibition on different utility types being located in the same trench.

RESPONSE: HCD appreciates the comment and acknowledges that it may not be possible to combine all utilities in a single trench in all applications. However, when it is possible, this measure will minimize soil disturbance and be beneficial. HCD is not proposing to make any revisions based on this comment.

COMMENT: EM-8 (B), Application Checklist Section A4.1.6.4: The commenter is concerned that some soil types may not be suitable for the use of permeable paving surfaces and has suggested that language be added to limit the requirements of this section to only areas which have suitable soil conditions.

RESPONSE: HCD appreciates the comment and believes that the comment may have merit. However, the same can be said for numerous provisions throughout California regarding soil conditions. It is not uncommon for local enforcing agencies to have ordinances which address specific soil conditions within their jurisdiction. As with all of the California Building Standards Codes, local enforcing agencies which adopt the tiers may evaluate what is acceptable for their area and modify this measure as necessary. HCD's intent was to introduce a permeable paving element to the tier portion while allowing builders and the local enforcing agencies flexibility to determine any limitations.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-8 (B), Application Checklist Section A4.1.7.1: The commenter suggests that the text in this section be presented in a different order to better reflect the intent of this section.

RESPONSE: HCD appreciates the comment and acknowledges the fact that part of the rulemaking process is trying to find a middle ground when it comes to how a paragraph or sentence is structured. HCD believes the original language is correct, does represent the measure correctly and is not proposing to make any revisions based on this comment. This comment and response are also applicable to Sections A4.2.13.1, A4.3.6.1, A4.4.11.1 and A4.5.9.1.

COMMENT: EM-8 (C): This comment is essentially a duplicate of comment **EM-9** submitted by Build It Green.

RESPONSE: HCD appreciates the comment and will respond to the contents of this portion of CBIA's comment package as submitted by Build It Green in comment **EM-9**.

4. COMMENTER: Tenaya Asan (**EM-9**)
GreenPoint Rated Program Manager
Build It Green
1434 University Avenue
Berkeley, CA 94702

COMMENT: EM-9, General comments for all divisions: The commenter expresses support for the level of clarity in the Water Efficiency and Conservation and Environmental Quality divisions and other measures that are well defined. The commenter believes that these measures will have a positive benefit. However, the commenter expresses a concern that some measures are not well defined and may be difficult to enforce. The commenter suggests that explanatory text from the GreenPoint Rated manual be referenced to clarify these areas.

RESPONSE: HCD acknowledges and appreciates the comment. Although HCD does not fully agree with this comment, HCD has reviewed the GreenPoint Rated manuals and has gleaned some information from them. However, the format of a guideline or manual and the format of a code are considerably different. During development of the CGBC, HCD has repeatedly received comments from stakeholders requesting that editorial comments and notes be limited because they are not appropriate for inclusion in a code. HCD is in the initial stages of developing a manual to accompany the CGBC and believes this document will help to provide an additional level of guidance that should ease the commenter's concern. Although HCD does not believe this manual is necessary for proper enforcement of the CGBC, it also seems there can never be enough information. The manual will be available mid-2010, well in advance of the effective date of the CGBC. This concept is typical of most model codes, which offer commentaries or interpretive manuals to provide code users with additional information and guidance not appropriate for inclusion in a code. HCD also believes that with continued input from stakeholders like Build It Green, the CGBC will continue to be responsive to all stakeholders and continue to be fine-tuned in the future.

COMMENT: EM-9, Division 4.1 mandatory measures: The commenter expresses support for the mandatory measures.

RESPONSE: HCD acknowledges and appreciates the supportive comment.

COMMENT: EM-9, Tier 2 requirements: The commenter expresses concern that five elective measures could be difficult to achieve.

RESPONSE: HCD received a similar comment concerning the number of elective measures required for Tier 2 and has proposed to amend the number of elective measure from five to four.

COMMENT: EM-9, Section A4.1.6.2.3: The commenter expresses concern that finding topsoil worthy of protecting is rare and questions the benefit of this measure. The commenter also suggests that in the event topsoil worthy of protection is available, it should not be stockpiled more than 6 feet in height and suggests that the GreenPoint Rated system contains clear specification and verification.

RESPONSE: HCD received comment during the development of the CGBC stating that retention of topsoil displaced during the construction process could provide a needed and valuable resource during the final landscape process if it was protected for reuse. If not protected, this resource would be lost. HCD acknowledges the fact that not all construction sites will have desirable soil, or depending on the finished site design, have a need for topsoil. However, it is not uncommon for landscapes to be required by local ordinance and possibly benefit from this measure. HCD appreciates the comment and will continue to work with stakeholders to evaluate the benefit of this measure and, as necessary, propose further amendments to provide additional guidance.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-9, Section A4.1.6.2.4: The commenter expresses concern that delineation of the construction area may be difficult and rarely implemented except on larger construction sites.

RESPONSE: HCD appreciates the comment and acknowledges the fact that this measure may not be possible on all construction sites due to size or configuration. However, when it is possible, HCD believes there is beneficial value in this measure. HCD's believes the proposed language is specific and provides enough clarity for the enforcing agency.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-9, Section A4.1.6.4: The commenter expresses concern that permeable paving surfaces may cause problems for persons with disabilities and should include a percentage of perviousness.

RESPONSE: HCD appreciates the comment and is proposing amendments to address access requirements for persons with disabilities. HCD believes that provisions of Section 101.6.1 cover this issue. However, HCD also believes that the commenter raises an excellent point and wants to ensure that the provisions for disabled access are not overlooked and are properly addressed. To address this comment, HCD has included a pointer to the requirements for accessibility in the California Building Code. There is no change in regulatory effect because the disabled access provisions are already in effect and are specific. As for the pervious level, HCD has provided a definition for PERMEABLE PAVING during this rulemaking and will continue to evaluate the necessity to propose further amendments to provide additional guidance.

COMMENT: EM-9, Division 4.2 mandatory measures: The commenter expresses support for the mandatory measures.

RESPONSE: HCD acknowledges and appreciates the supportive comment.

COMMENT: EM-9, Tier 2 requirements: The commenter expresses concern that while a 30% increase in stringency above the requirements contained in the California Energy Code could be costly to builders, it appears that many of the measures may also be included in the eight elective measures required for Tier 2. The commenter also expresses an opinion that many of the measures would be completed by HERS raters and therefore not create an extra burden for the builder.

RESPONSE: HCD appreciates the comment and agrees that some of the elective measures may be needed to meet the 30% increase in stringency. However, HCD does not believe there is a significant impact on the builder that is reduced by any mandate to use a HERS rater.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-9, Section A4.2.7.1: The commenter expresses an opinion that alternative space heating systems may not be desirable and that building officials do not have the expertise to make a determination on the effectiveness of an alternative system.

RESPONSE: HCD appreciates the comment and agrees with the general concept that an alternate may not necessarily be desirable. However, HCD also believes that enforcing agencies routinely make determinations on alternative methods of construction or types of products. Building officials have the authority to require as much information as necessary to make a determination regarding a proposed alternate. This section clarifies that should an alternative system be proposed, the design shall comply with industry standards for the proposed innovative design. As with all codes, it is not the intent of this code to suppress technology; however, sufficient information shall also be provided to ensure that the proposed technology is both effective and efficient. HCD believes that building officials do have a sufficient level of knowledge in most cases and certainly have the ability to require consultation or the assistance of special experts in order to make a more informed determination.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-9, Section A4.2.8.3: The commenter expresses an opinion that engineered plumbing systems require detailed information, specifications and installation to be effective. The commenter also references pipe sizing.

RESPONSE: HCD appreciates the comment and agrees with the commenter regarding the need for proper design and installation. Plumbing system design for hot water distribution systems is a topic which HCD has found contains many opinions. However, most experts agree that it is necessary to address this issue. During development of the CGBC, HCD received input from many of the experts in the field. There was disagreement on numerous issues, including the most basic. HCD is aware that a reduction in pipe size does not necessarily translate to a reduction in water use. However, properly designed piping which is not oversized can contribute to water savings. HCD will continue to work with experts in this area.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-9, Section A4.2.11.3: The commenter expresses an opinion that roof penetrations for future solar installations are not a best practice and recommends that utility lines for such installations terminate in the attic.

RESPONSE: HCD appreciates the comment. HCD received input from stakeholders stating that conductors or piping should not be included as a requirement for this measure because the required conductors or piping may not be appropriate. HCD also received comment stating clear space with roof penetrations could reduce the costs of future solar installations. HCD is not proposing to make any revisions based on this comment.

COMMENT: EM-9, Division 4.3 mandatory measures: The commenter expresses support for the mandatory measures.

RESPONSE: HCD acknowledges and appreciates the supportive comment.

COMMENT: EM-9, Section A4.3.3.1: The commenter expresses concern regarding the kitchen faucet flow reduction to 1.5 gallons per minute because consumers may complain about the additional time needed to fill containers.

RESPONSE: HCD acknowledges and appreciates the comment. This topic was discussed during the previous rulemaking with one commenter expressing concern about reduced flow at a kitchen sink faucet. At that time, HCD withdrew the proposal for further vetting. During this rulemaking, HCD again proposed a

reduction at the kitchen sink for Tier 1 and Tier 2 buildings. Most stakeholders did not indicate the reduced flow was a problem and indicated a belief that benefit would be realized during most activities.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-9, Section A4.3.4.1: The commenter expresses concern that the measure may not lead to the intended benefit unless emitter flow rates, design and layout are clarified. The commenter suggests the water budget may be a more appropriate place to address this.

RESPONSE: HCD appreciates and acknowledges the comment and may address this issue in future rulemakings, if necessary. However, as this time HCD is not proposing any changes based on this comment. This section is an optional section that, if adopted by a local jurisdiction, may be selected as an elective by a builder or homeowner. The section provides guidance regarding the use of spray type irrigation heads and allows local enforcing agencies to accept any type alternate system or modify this measure as appropriate for their location or region. HCD also has proposed reductions in outdoor water use as a prerequisite to Tier 1 and Tier 2.

COMMENT: EM-9, Section A4.4.5.3: The commenter expresses concerns that the measure could be interpreted several ways.

RESPONSE: HCD appreciates and acknowledges the comment and has specified how the content is quantified. Recycled content value is calculated using the equation provided in Section A4.4.5.3.1. The calculation is based on the total value of materials for the project. In addition, HCD plans to include sample worksheets and material reference in a compliance manual, which will be available mid-2010.

COMMENT: EM-9, Section A4.4.8.1: The commenter expresses concern that 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.

RESPONSE: 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 indicates 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 has considered these comments and is proposing to leave the Tier 1 level at 65%, and lower the Tier 2 level to 75%. 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.

COMMENT: EM-9, Section A4.4.4.1: The commenter expresses concern that using framing members correctly sized for the load is an unconventional practice.

RESPONSE: HCD appreciates the comment. However, HCD does not agree that this measure will create an unconventional framing practice. It is common for builders to perform value engineering analysis to establish material and cost savings through the use of beams, headers and other framing material that is sized to adequately support the imposed loads without unnecessary over sizing.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-9, Section A4.4.5.4: The commenter suggests that this section is difficult to meet and that two of the included items do fit the stated criteria of products harvested within a 10 year limit.

RESPONSE: During the development of the CGBC, HCD received comment from stakeholders indicating that solid wood in itself should not be precluded from the list due to emerging technologies in the field.

Stakeholders also expressed concern that some types of wood, which are currently being evaluated for use, have much shorter harvest cycles than traditional framing lumber. HCD does not want to limit any material provided the overreaching goal of shorter harvest cycles is achieved and chose not to accept the comment because the section contains a clarifying note to address the 10 year harvest cycle.

COMMENT: EM-9, Section A4.4.7.4: The commenter suggests that protecting building materials from rain and other sources of moisture is impossible.

RESPONSE: HCD believes that building materials can be protected from moisture with minimal effort. A typical example is drywall. It is not uncommon for drywall to be delivered before the structure is watertight. The drywall is typically wrapped or covered after arrival at the construction site. This measure is consistent with the provisions contained in a report developed for the California Energy Commission entitled "A California Builders Guide to Reducing Mold Risk."

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-9, Air quality measures: The commenter expresses support for the inclusion of indoor air quality measures and the formaldehyde measures.

RESPONSE: HCD acknowledges and appreciates the supportive comment.

COMMENT: EM-9, Section A4.5.4.4: The commenter suggests that further research be conducted regarding the availability of carpet meeting one of the listed product standards because product availability is still quite limited.

RESPONSE: HCD appreciates the comment and has reviewed this section and determined that revisions are not necessary. HCD has done research regarding availability of carpet product meeting the requirements of this section and believes that sufficient product is available. In addition, HCD received information from air quality experts based on the Carpet and Rug Institutes directory that a significant amount of carpet product designed for residential and non-residential applications meet the referenced green plus standard. HCD also believes that although it is not common practice to install commercial grade carpet in residential applications, it should not be prohibited either. Therefore, HCD believes it is appropriate to include references to carpet product which are not typically used in residential applications in order to not restrict its use.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-9, Section A4.5.3.1: The commenter suggests that wood burning fireplaces be removed from this section or a better definition be provided and expresses the opinion that wood burning fireplaces are not considered green.

RESPONSE: HCD concurs with a portion of this comment and has proposed a modification to this section in order to clarify the intent. In recent years, many Air Quality Control Districts have adopted local requirements which address wood burning. At this time, HCD believes those actions are probably more appropriate than a statewide ban. In addition, adequate time is not available during this rulemaking to properly obtain public input and establish the benefit, necessity and specificity of this proposal and allow for adequate public participation, including designers, builders, air quality experts, stakeholders and the Code Advisory Committee. HCD may take the concerns expressed in this comment under consideration in the development of future rulemaking packages.

COMMENT: EM-9, Section 4.5.5.3: The commenter suggests that this measure will be challenging to meet during wet weather conditions and that green timber is commonly higher than 20% moisture and may not dry to 19% or below.

RESPONSE: HCD believes that this measure will require additional care during wet weather construction. However, HCD also adopts sections of the California Building Code which specify maximum levels of moisture in framing materials. Depending on the type of materials, those levels range between 15% and 20%. However, there was no requirement for moisture content to be verified prior to enclosure of a wall or floor cavities. Excessive moisture can enhance the growth of mold or other biological growth. This section will require moisture content to be verified to the satisfaction of the enforcing agency prior to approval to

enclose wall and floor cavities. The specificity of the testing was provided to HCD by lumber industry experts who participated in the last rulemaking process.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

5. COMMENTER: William Schock (**EM-11**)
Chair, CALBO Green Building Committee
California Building Officials (CALBO)
1225 Eighth St, Suite 425
Sacramento, CA 95814

COMMENT: EM-11, Preface: The commenter suggests deleting the last sentence of Section 101.7. The rationale used by the commenter indicates that because the code is voluntary it would prohibit local jurisdictions from adopting more stringent standards prior to the effective date of the code.

RESPONSE: HCD appreciates the comment and has proposed to make an editorial amendment to the PREFACE. HCD is proposing to make this editorial change in response to this comment and to provide consistency with Section 101.7.1, Item 1. HCD is not proposing to remove the word "local" as suggested by the commenter because it would create an inconsistency with the provisions of AB 210 (Stats. 2009, c.89 Hayashi), which amended Health and Safety Code Section 17958.7 to specifically address local modification of green building standards. It should be noted that the language used in statute specifically mentions the word "local".

COMMENT: EM-11, Section 101.7.1, Item 1: The commenter suggests deleting the word "local" in Item 1 of this section.

RESPONSE: HCD acknowledges and appreciates the comment, but does believe the word should be removed. HCD is not proposing to remove the word "local" as suggested by the commenter because it would create an inconsistency with the provisions of AB 210 (Stats. 2009, c.89 Hayashi), which added Health and Safety Code Section 17958.7 to specifically address local modification of green building standards. It should be noted that the language used in statute specifically mentions the word "local".

COMMENT: EM-11, Section 4.1.4: The commenter suggests adding a provision to this section which authorized the enforcing agency to waive the submission of construction documents necessary to obtain compliance with this code.

RESPONSE: HCD acknowledges and appreciates the comment. HCD has proposed to withdraw both of these sections from this rulemaking. HCD also would like to clarify that Section 102.1 clarifies that the local enforcing agency can determine what is necessary to show substantial conformance with the provisions of the CGBC and may waive submission of documents.

COMMENT: EM-11, Section 4.4.10.1: The commenter states that Item 10 was added after the Code Advisory Committee (CAC) meeting.

RESPONSE: HCD acknowledges and appreciates the comment. HCD concurs with the comment and would like to clarify that the additional item was added after discussions at the CAC regarding Section 702.2. HCD is not sure if the CAC took specific action or gave direction regarding this issue. However, staff notes indicate that it was an item either discussed by the CAC or members of the public.

COMMENT: EM-11, Section 702.2: The commenter suggests deleting the last eight words of Section 702.2 which are "when evaluating the qualifications of a special inspector".

RESPONSE: HCD acknowledges and appreciates the comment, but does not fully understand the rationale for the suggested change. Special inspection is a common practice which typically involves the enforcing agency approval of a special inspector. HCD does not believe this section exceeds what is already common practice. However, in future rulemakings HCD will work with the commenter to clarify the intent of the comment.

No code changes have been proposed to HCD's rulemaking package as a result of this comment.

COMMENT: EM-11, Section 702.2: The commenter suggests deleting the last eight words of Section 702.2 which are “when evaluating the qualifications of a special inspector”. The commenter also suggests that Note #2 be deleted.

RESPONSE: HCD acknowledges and appreciates the comment, but does not fully understand the rationale for the suggested change. Special inspection is a common practice which typically involves the enforcing agency approval of a special inspector. HCD does not believe this section exceeds what is already common practice. However, in future rulemakings HCD will work with the commenter to clarify the intent of the comment.

HCD has received numerous comments regarding adding a reference to Home Energy Rating System (HERS). HERS raters are certified through organizations approved by the California Energy Commission (CEC) to verify requirements of the California Energy Code. HCD has resisted the inclusion of a specific organization to allow more options for enforcing agencies and builders. Due to increased pressure to recognize this group and be consistent with what is allowed by CEC regulations, HCD added this provision. HCD received direction at the Code Advisory Committee meeting to try to bring this section in alignment with both the Building Code requirements for special inspection and the CEC requirements for third party (HERS) verification.

6. COMMENTER: Larry Rolfes (**EM-12**)
Assistant Executive Director
California Landscape Contractors Association
1491 River Park Drive, #100
Sacramento, CA 95815

COMMENT: EM-12, Sections A4.6.3: The commenter suggests that the proposed reduction levels for potable water use outdoors are extreme, the language is confusing and left unamended would create excessive backlash from consumers resulting in unregulated consumer modification to the landscape irrigation systems.

RESPONSE: After extensive conversations with the commenter and state water experts, HCD has proposed amendments based on this comment. HCD has proposed revisions to this section that would result in a more usable standard that would be acceptable and still significantly reduce outdoor water use.

COMMENT: EM-12, Sections A4.3.4.1: The commenter suggests that spray type irrigation systems be allowed for other than turf areas and that HCD incorporate language from the Department of Water Resources (DWR) model landscape ordinance at this location because most residential landscapes are too small for the model landscape ordinance to capture.

RESPONSE: HCD appreciates and acknowledges the comment and may address this issue in future rulemakings. However, as this time, HCD is not proposing any changes based on this comment. This section is an optional section that, if adopted by a local jurisdiction, may be selected as an elective by a builder or homeowner. In addition, local enforcing agencies may accept any type alternate system and may modify this measure as appropriate for their location or region.

7. COMMENTER: Elizabeth Echols (**EM-13**)
Director, U.S. Green Building Council
Northern California Chapter
130 Sutter Street, Suite 660
San Francisco, CA 94104

COMMENT: EM-13, Section 101.7: The commenter suggests deleting the word “local” in Item 1 of this section.

RESPONSE: HCD acknowledges and appreciates the comment, but does believe the word should be removed. HCD is not proposing to remove the word "local" as suggested by the commenter because it would create an inconsistency with the provisions of AB 210 (Stats. 2009, c.89 Hayashi), which amended Health and Safety Code Section 17958.7 to specifically address local modification of green building standards. It should be noted that the language used in statute specifically mentions the word "local".

COMMENT: EM-13, Section 4.5.4.6: The commenter expresses support for the formaldehyde limits proposed in the CGBC.

RESPONSE: HCD acknowledges and appreciates the supportive comment.

COMMENT: EM-13, Division A4.6: The commenter expresses support for a significant improvement within the tier structure, but expresses concern that without adequate enforcement and verification, the benefit of the CGBC would be undermined.

RESPONSE: HCD acknowledges and appreciates the comment and believes that in some instances, it may be necessary to have special inspection or independent verifications. However, in most cases, local enforcing agencies are the best entity to determine those needs. Local enforcing agencies are tasked with enforcing the California Building Standards codes. On a daily basis, they establish enforcement needs based on staffing levels, expertise and complexity. They commonly utilize special inspector or independent entities to assist them in the enforcement of California codes. Currently, HCD does not establish who a local enforcing agency should use to inspect complex fire, life, and health protections that are required in all buildings. In addition, HCD does not feel it is appropriate to specify what entities a local enforcing agency should use to ensure compliance with the CGBC.

8. COMMENTER: Mary D. Nichols (**EM-14**)
Chairman
Air Resources Board
1001 I Street
Sacramento, CA 95812

COMMENT: EM-14, Sections A4.1.6.2.3 and A4.6.2.4: The commenter pointed out an error in the structure of these two sections.

RESPONSE: HCD proposes to make clarifying amendments to these sections based on this comment. 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. However, the code sections have been combined into one section for clarity.

COMMENT: EM-14, Section A4.1.6.5: The commenter pointed out several errors and inconsistencies in this section and the related Tables.

RESPONSE: For the 15-day comment period, HCD proposed amendments to Section A4.1.6.5 in order to correct a typographical error. In addition, HCD proposed to modify the Tier 1 table to gain consistency with the values used in Title 24, Part 6. HCD also proposed 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 proposed to add a clarifying section stating that verification is required. During the 15-day comment period, HCD was made aware that there was a mathematical error that HCD had not previously corrected. The Solar Reflectance Index (SRI) value listed in Table A4.1.6.5 (2) was not adjusted to coincide with the changes HCD made to the solar reflectance and thermal emittance values. The California Energy Commission has developed a calculator that is part of Title 24, Part 6 to calculate SRI values. HCD is proposing to make this editorial change and provide the needed consistency between energy code and the values HCD has proposed during the 15-day comment period. This revision will correct the erroneous SRI number.

COMMENT: EM-14, Section A4.3.3.2: The commenter pointed out inconsistencies in this section which did not properly reflect HCD intent.

RESPONSE: HCD appreciates the comment and has proposed to make clarifying amendments to combine Sections A4.3.3.1 and A4.3.3.2 based on this comment. The original submittal was not clear and did not clearly 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 proposed to indicate this clarification in the Application Checklist.

COMMENT: EM-14, General comment on verification: The commenter requests that special inspection be conducted to ensure compliance with the cool roof requirement. The commenter also suggests that the language in the water budget section be clarified to indicate that a calculation was required. Lastly, the commenter requests clarification that a copy of the waste management report be provided.

RESPONSE: HCD appreciates the comment and has added Section A4.1.6.5.1 to further clarify inspection shall be conducted to ensure roofing materials meet cool roof aged solar reflectance and thermal emittance or SRI values. In addition, HCD has proposed to add Section A4.3.4.4.1 clarifying that a calculation is required to show compliance with the water budget requirements, and Section A4.4.8.1.1 requiring documentation is provided to the enforcing agency, which demonstrates compliance with construction waste recycling or diversion requirements.

COMMENT: EM-14, Division A4.6: The commenter requests that the prerequisites and electives for tiers be summarized similar to the California building Standards Commission proposed formatting. Currently, the prerequisites for the tiers can only be found when reviewing the 18 pages of the application checklist. The requirements for Tier 1 and Tier 2 should be listed as a summary so that it is clear at a glance what is included in each tier.

RESPONSE: HCD appreciates the comment and has revised Sections A4.6.1.2 through A4.6.1.5 and eliminated Table A4.6.1.4 for the 15-day comment period. During the 15-day comment period, HCD was made aware of various typographical and editorial errors. HCD has revised these areas as well.

COMMENT: EM-14, Application Checklist Section 4.5.4.2.3: The commenter informed HCD that Section 4.5.4.2.3 was not listed in the Application Checklist.

RESPONSE: HCD has proposed to make this revision to provide clarity to the code user. The original submittal did not reference the requirements contained in Section 4.5.4.2.3 in the Application Checklist. 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.

COMMENT: EM-14, Sections A4.5.4.2 and A4.5.4.3: The commenter informed HCD that the notes pertaining to these sections should reference a specific section or reference "this section".

RESPONSE: HCD proposes to make editorial amendments to the section based on this comment. 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.

9. COMMENTER: Victoria Rome (**EM-15**)
California Advocacy Deputy Director
National resources Defense Council (NRDC)
111 Sutter Street, 20th Floor
San Francisco, CA 94104

Lauren Navarro
Environmental Defense Fund

COMMENT: EM-15, No section referenced: The commenter expresses support for a significant improvement within the tier structure but expresses concern that without adequate enforcement and verification the benefit of the CGBC would be undermined.

RESPONSE: HCD acknowledges and appreciates the comment and believes that in some instances it may be necessary to have special inspection or independent verifications. However, in most cases local enforcing agencies are the best entity to determine those needs. Local enforcing agencies are tasked with enforcing the California Building Standards codes. On a daily basis they establish enforcement needs based on staffing levels, expertise and complexity. They commonly utilize special inspector or independent entities to assist them in the enforcement of California's codes. Currently, HCD does not establish who a local enforcing agency should use to inspect complex fire, life, and health protections that are required in all buildings. In addition, HCD does not feel it is appropriate to specify what entities a local enforcing agency should use to ensure compliance with the CGBC.

COMMENT: EM-15, No specific section referenced: The commenter suggests that local governments must retain their authority to adopt standards necessary to meet climate change and other environmental challenges.

RESPONSE: HCD acknowledges and appreciates the comment. The commenter has referenced support for Comment EM-13 on this issue regarding local modification. HCD is not proposing to remove the word "local" as suggested by the Em-13 commenter because it would create an inconsistency with the provisions of AB-210 (Stats. 2009, c.89 Hayashi) which amended Health and Safety Code Section 17958.7 to specifically address local modification of green building standards. It should be noted that the language used in statute specifically mentions the word "local".

COMMENT: EM-13, Section 4.5.4.6: The commenter expresses support for the water efficiency, and formaldehyde limits proposed in the CGBC.

RESPONSE: HCD acknowledges and appreciates the supportive comment.

10. COMMENTER: Art Ludwig (**EM-16**)
Oasis Design
Ecological Design Publishing & Consulting
Santa Barbara, CA

COMMENT: EM-16, Sections 101.2 and 101.8: The commenter suggests that innovative concepts and alternative designs should be considered for their environmental benefit globally and in the future. The commenter further explains that enforcing agencies are not free to evaluate off site and future risks as a reason to approve experimental or innovative technologies and are apprehensive about doing so because of legal liability.

RESPONSE: HCD has had several discussions with the commenter and believes that the statutory provision which allow local modification of the California Building Standards Code allow for innovative concepts and experimental designs provided the enforcing agency finds the proposed alternate is at least equivalent. HCD also believes that local modification must be based on local concerns. HCD is not proposing to make any change because it would create an inconsistency with the provisions of AB-210 (Stats. 2009, c.89 Hayashi) which amended Health and Safety Code Section 17958.7 to specifically address local modification of green building standards. It should be noted that the language used in statute specifically mentions the word "local". However, HCD does believe that the commenter's concerns should be incorporated into the beginning of the rulemaking process for a more thorough vetting with stakeholders and the CAC.

COMMENT: EM-16, Section A4.1.6.1: The commenter suggests that the measure be modified to address property lines, geologic features and vegetation.

RESPONSE: The comment is directed toward measures that have been proposed and approved in prior rulemakings and are therefore outside the scope of this rulemaking. HCD will respond for clarification. In future rulemakings HCD may consider including this comment for stakeholder discussion. It may be appropriate to include language to address the commenter concern. However, this proposal must be included at the beginning of the rulemaking process.

COMMENT: EM-16, Section A4.2.11.1: The commenter suggests that the measure be modified to address the location and use of spectrally selective glazing which can hamper passive solar designs. In addition the commenter suggests that a provision for thermal mass be included.

RESPONSE: HCD believes that the comment may have merit. However, it was received after the majority of the public vetting process had passed and is too late to allow adequate time and review during this rulemaking. Adequate time is not available during this rulemaking to properly obtain public input and establish the benefit, necessity and specificity of this proposal and allow for adequate public participation including designers, builders, stakeholders and the Code Advisory Committee. HCD will take the concerns expressed in this comment under consideration in the development of future rulemaking packages.

COMMENT: EM-16, Section A4.3.5.1: The commenter suggests that the measure be modified to include specific provisions for the installation of piping to streamline future installation of graywater irrigation systems.

RESPONSE: HCD is in the final phases of promulgating permanent graywater regulations throughout the state of California and is apprehensive about including a regulation that is so specific in the CGBC without the graywater regulations being permanently in place. However, HCD believes that the comment may have merit. Adequate time is not available during this rulemaking to properly obtain public input and establish the benefit, necessity and specificity of this proposal and allow for adequate public participation including HCD's graywater interested parties, designers, builders, stakeholders and the Code Advisory Committee. HCD will take the concerns expressed in this comment under consideration in the development of future rulemaking packages.

COMMENT EM-A WAS RECEIVED DURING THE SUBSEQUENT 15-DAY COMMENT PERIOD.

(The text with the proposed changes clearly indicated was made available to the public from December 1, 2009, until December 16, 2009.)

NOTE: The complete text of each individual comment and any referenced materials may be reviewed at the following internet address: http://www.bsc.ca.gov/prpsd_chngs/pc_09_comment.htm

11. COMMENTER: James Mattesich (**EM-A**)
Greenberg Trauring on behalf of the Asphalt Roofing Manufacturers Association
1201 K Street, Suite 1100
Sacramento, CA 95814

COMMENT: EM-A, General-1: The commenter believes that the proposed changes to the SRI values constituted the necessity for a 45-day comment period and that the inspection requirement constitutes a new requirement.

RESPONSE: HCD appreciates the comment. However, HCD believes the public did receive adequate notice that the revisions to the SRI values may occur in the future and does not believe that inspection of roofing materials for compliance is a new requirement in California. During the 45-day comment period, HCD included a placeholder while continuing to work with stakeholders to evaluate product availability and provide compliance options. HCD believes that the 15-day proposal was sufficiently related because the regulated public was put on notice that a change would occur in this area by the inclusion of the "to be determined" placeholder in the 45-day language. During subsequent conversations to the initial 45-day comment period, the commenter's clients acknowledged that they were aware of the proposed cool roof proposals included in the 45-day comment period. In addition, HCD believes that the original proposal is sufficiently clear that the code user could expect a change in this area.

Government Code (GC), Section 11346.8(c) states that a 15 comment period is appropriate if the proposed change is "sufficiently related to the original text that the public was adequately placed on notice that the change could result from the originally proposed regulatory action. If a sufficiently related change is made, the full text of the resulting adoption, amendment, or repeal, with the change clearly indicated, shall be made available to the public for at least 15 days before the agency adopts, amends, or repeals the resulting regulation." In this case, HCD believes that the public was placed on notice that a value would be determined in the future.

Health and Safety Code (HSC), Section 17960 requires the building department of every city or county to enforce within its jurisdiction all the provisions published in the State Building Standards Code. For further clarification HSC 17970 provides inspection authority for the officer, employee, or agent of an enforcement agency to enter and inspect any building or premises to prevent a violation of, any provision of the building standards published in the State Building Standards Code. The CGBC applies to new construction and will therefore be subject to permit issuance and verification by the local enforcing agency. HCD believes that the expectation of most individuals obtaining a building permit is that an inspection will take place to verify compliance with the appropriate code requirement.

COMMENT: EM-A, General-2: HCD appreciates the comment and agrees with the commenter that the proposed changes to the SRI values contain an error. The commenter also is concerned that none of the products rated by the Cool Roof Rating Council (CRRC) meet the proposed values, or the proposed values are not appropriate for high slope residential roof construction and there is no trade-off for insulation values.

RESPONSE: HCD agrees with the commenter regarding the mathematical error in SRI values and has proposed to revise it during a second 15-day comment period. However, HCD finds that a significant amount of roofing product rated by the CRRC does meet the Tier 2 proposal. Of the sixty-one roofing products referenced by the commenter, all but four meet the proposed Tier 2 requirements. In addition to revising the mathematical error in the SRI value, HCD also proposed revisions to further clarify how SRI values are calculated. HCD's proposal for cool roof technology does not address energy use in the building. However, the energy use of the building may benefit from cool roof technology. This proposal targets heat island mitigation and was developed through collaboration with air quality and energy experts. Initial values were established based on product availability by differing manufacturers. HCD received input indicating that the cost of approximately 80% of the roofing used in new construction would not be significantly affected, if at all. However, depending on the type of roofing material, additional cost may be incurred in the purchase of some of these products. HCD received input stating roof material for some types of roofing could increase approximately \$30 per square depending on color and material type. Lastly, this proposal is not a mandate as proposed by HCD, it is a voluntary provision a local enforcing agency may adopt or modify based on local needs. HCD will continue to work with the commenter to address their concerns.

COMMENT EM-AA WAS RECEIVED DURING THE SECOND 15-DAY COMMENT PERIOD.

(The text with the proposed changes clearly indicated was made available to the public from December 18, 2009, until January 4, 2010.)

NOTE: *The complete text of each individual comment and any referenced materials may be reviewed at the following internet address: http://www.bsc.ca.gov/prpsd_chngs/pc_09_comment.htm*

12. COMMENTER: James Mattesich (**EM-AA**)
Greenberg Trauring on behalf of the Asphalt Roofing Manufacturers Association
1201 K Street, Suite 1100
Sacramento, CA 95814

COMMENT: EM-AA, General-1: The commenter believes that the proposed 15-day changes to the original proposal constitute a 45 comment period and the proposed changes are substantial.

RESPONSE: HCD appreciates the comment. However, HCD believes the public did receive adequate notice that substantially related revisions may occur in the future. During the 45-day comment period, HCD included a placeholder while continuing to work with stakeholders to evaluate product availability and provide compliance options. HCD believes that the 15-day proposal was sufficiently related because the regulated public was put on notice that a change would occur in this area by the inclusion of the "to be determined" placeholder in the 45-day proposal. The 15-day proposal is directly related to the 45-day language – the same categories of criteria were in the 45-day language (reflectance, emittance, SRI). HCD properly responded to comments related to the specific levels and addressed concerns that were raised about the achievability of the levels; these levels are intended to be "best practice" given that they are in a Tier 2 category, but they should be demonstrably achievable, preferably by a number of manufacturers. This is the case for the 15-day language as is demonstrated by CRRC and Energy Star qualified products. In addition, this section was always intended to have two methods of compliance as indicated in the 45-day language.

COMMENT: EM-AA, General-2: The commenter believes that the proposed cool roof values are arbitrary, add unreasonable cost to the public and believes that there is not sufficient product in the market to meet builders needs.

RESPONSE: HCD appreciates the comment. HCD received input indicating that the cost of approximately 80% of the roofing used in new construction would not be significantly affected, if at all. However, depending on the type of roofing material, additional cost may be incurred in the purchase of some of these products. HCD received input stating roof material for some types of roofing could increase approximately \$30 per square depending on color and material type. HCD does not agree with the commenter regarding the proposed values. The values are not arbitrary and have been selected by analysis of products proposed by the client this commenter represents for rating and use in California. HCD also believes that there is sufficient product in the market. Of the 61 products currently listed on the CRRC website, all but four meet HCD's Tier 2 proposal. Due to the prescriptive and performance methods of compliance, these four products may be in compliance after they are assigned aged values by the CRRC. Lastly, this proposal is not a mandate as proposed by HCD; it is a voluntary provision a local enforcing agency may adopt or modify based on local needs. HCD will continue to work with the commenter to address their concerns. It should also be noted that since the Tier 2 criteria is optional, utilities and others can offer incentives – California utilities commonly offer incentives that can further the reduction of any costs.

COMMENT: EM-AA, General-3: The commenter believes that the proposed cool roof emittance values are required to be only aged values.

RESPONSE: HCD has corresponded with the commenter and explained that the aged value is required for solar reflectance if a certified value is available from the CRRC. HCD has also tried to explain to the commenter that when using the SRI value to comply with HCD's Tier 2 proposal, the Solar Reflective Index (SRI) value is a combination of an aged value if one is available from the CRRC for solar reflectance and an initial or aged value for emittance. HCD has added a clarifying note to address the commenter's concern.

COMMENT: EM-AA, General-4: The commenter believes that the proposed note added to clarify the commenter's concern is legally deficient because it delegates authority to the California Energy Commission (CEC) to create a worksheet.

RESPONSE: The CBSC has approved methodologies to calculate SRI. Title 24, Part 6, Section 118(i)3 requires SRI to be calculated as specified in ASTM E1980-01. The worksheet HCD has proposed to reference was developed by the CEC based on the calculation methods specified in ASTM E 1980-01, consistent with the CBSC previously approved Section 118(i)3 and is available online with specific use instructions. The worksheet can already be used to show compliance with the requirements in Part 6. This referenced worksheet will provide code users with an automated method to calculate SRI should the product they wish to use not meet the prescriptive solar reflectance and emittance levels.

COMMENT: EM-AA, General-5: The commenter believes that the referenced calculator should not be developed by a third party agency because it could change without notice and opines there is confusion between the CRRC and Lawrence Berkeley National Laboratory (LBNL).

RESPONSE: The CBSC has already approved regulations which clarify how SRI is calculated. Any change to that methodology must be adopted by the CEC and the CBSC; it could not change without notice and rulemaking. In addition, the CBSC has already approved regulations adopted by the California Energy Commission, which specify the reflectance and emittance of a roofing product must be certified by the CRRC or another entity approved by the CEC. Currently, the CRRC is the only entity approved by the CEC.

COMMENT: EM-AA, General-6: The commenter believes that any SRI calculation should reference ASTM 1980 and define all variables so there is no confusion.

RESPONSE: HCD does not believe a reference to ASTM 1980 is necessary. HCD's proposal is consistent with the CEC regulations already approved by the CBSC. Title 24, Part 6, Section 118(i)3 provides the reference to ASTM 1980 and clarifies how SRI values shall be calculated. The calculator developed by the CEC is based on this methodology. The calculator is currently available for use and is complete with extensive instructions. HCD believes that the current proposal contains adequate information for the code user to accurately calculate SRI values.

COMMENT: EM-AA, General-7: The commenter expresses a concern that reference to the CRRC creates a single source monopoly. The commenter also expresses a concern that Title 24, Part 1, Section 10-113 allows the CEC to appoint any entity to provide reflectance and emittance certification.

RESPONSE: HCD agrees that the CEC does have the ability to appoint another supervising entity. However, that entity must follow CRRC testing and rating procedures and be accredited to perform tests under CRRC procedures. These procedures previously were adopted by regulation and approved by the CBSC. HCD does not believe additional clarification is necessary at this time. However, in future rulemakings HCD would entertain the addition of language similar to that contained in Title 24, Part 1, Section 10-113(b) which states in part "certified by the CRRC or another supervisory entity approved by the Commission pursuant to Section 10-113(c)."

COMMENT: EM-AA, General-8: The commenter expresses a concern that the climate zones revisions proposed by HCD greatly expand the compliance requirement and are arbitrary and impose heating penalties on homeowners.

RESPONSE: HCD proposed changes to the original proposal to limit the climate zones, not expand the climate zones. Cool roof technology is best suited for climate zones which typically utilize space conditioning equipment to cool the building. As reflectance values increase, the benefit in marginal climate zones decreases and may have a negative effect on the building energy use during times of the year when heating is needed. HCD proposed these revisions to include the appropriate climate zones for the Tier 2 levels. The proposed revisions achieve the result the commenter expresses.

COMMENT: EM-AA, General-9: The commenter expresses a concern that the SRI values do not necessarily correspond to the solar reflectance and emittance values when an SRI calculation is performed.

RESPONSE: The values may not always correspond with one another. There are two methods to comply with HCD's proposal. The first is a prescriptive method that specifies a minimum solar reflectance and thermal emittance value. The second is to perform the SRI calculation, which provides the code user the ability to select from an initial value or an aged value depending on the rating status of the product and which value is most beneficial. The SRI calculation establishes a performance approach for compliance. California Building Standards law strongly encourages agencies to incorporate performance approaches into building standards. This concept is standard in construction codes which commonly include both a prescriptive and performance method of compliance. An example of this is contained in the California Building Code, which limits the height of 2X4 wood studs to 10 feet. However, it is not uncommon for building designers to use alternate calculations which allow the studs to be taller than the prescriptive 10 feet set by the code.

DETERMINATION OF ALTERNATIVES CONSIDERED AND EFFECT ON PRIVATE PERSONS

(Government Code Section 11346.9(a)(4))

The California Building Green Building Code is Part 11 of Title 24 of the California Code of Regulations, known as the California Building Standards Code.

Health and Safety Code Section 17922 directs the Department of Housing and Community Development (HCD) to adopt the most recent edition of the Uniform Building Code (UBC) published by the International Conference of Building Officials (ICBO) into Part 2 of Title 24 of the California Code of Regulations. Following the publication of the 1997 UBC, ICBO notified HCD and the California Building Standards Commission (CBSC) that ICBO will no longer publish the UBC. Pursuant to the court case International Association of Plumbing and Mechanical Officials v. California Building Standards Commission (1997) 55 Cal.App.4th 245 (Ct of Appeal 3rd Dist CA) the CBSC is not limited to the statutorily identified model codes in HSC section 17922.

In addition to stakeholder input, the Department of Housing and Community Development has reviewed several green building programs, guidelines, standards and reports including but not limited to the following:

California Green Builder
LEED for Homes
ICC-700
NAHB Model Green Homebuilding Guidelines
US Environmental Protection Agency - Indoor Air Package
Build It Green- GreenPoint Rated Guidelines
American Concrete Institute - Standard ACI 302.1R-04 and ACI 302.2R-06
South Coast Air Quality Management District – Rule 1113 and Rule 1168
California State Water Resources Control Board- Construction Storm Water Program
California State Department of Water Resources – Water Efficient Landscape Ordinance
A California Builders Guide to Reduced Mold Growth – A Report to the California Energy Commission

Past green building legislation (AB 35 concerning state-owned buildings, AB 888 concerning commercial B-occupancy buildings and AB 1035 concerning residential construction) was vetoed by the Governor.

However, in his veto messages, the Governor expressed his support for development of green building standards, but advised that they should not be statutory, not conflict with current safety standards, and not rely on private entities to set standards. HCD has collaborated with stakeholders the CBSC and other state agencies to develop green building standards.

CBSC Direction – Develop Green Building Standards

At its July 19, 2007 meeting, the California Building Standards Commission (CBSC) formally directed CBSC staff to develop green building standards for new construction of buildings under its authority and submit these standards for adoption during the 2007 annual code adoption cycle. In addition, the CBSC requested and encouraged the Department of Housing and Community Development (HCD), the Division of State Architect (DSA), and the Office of Statewide Health Planning and Development (OSHPD) to develop green building standards for new construction of buildings under their respective authority and also submit these standards for adoption during the 2007 annual code adoption cycle.

HCD does not believe that the proposed California Green Building Code will have a significant adverse impact on California business and individuals, including the ability of California businesses to compete with business in other states; affect the creation of or elimination of jobs within California; affect the creation of or elimination of existing business within the state of California; or affect the expansion of businesses currently doing business within the State of California.

Due to the series of reviews by representatives of business and the community that these proposed model codes are subjected to, prior to and after HCD's review, and since there were no acceptable alternatives proposed to HCD as a result of the public comment period, HCD has no reason to believe that there is an acceptable alternative to these regulations that would be more effective in carrying out the purpose for which the regulations are proposed or would be as effective and less burdensome to affected private persons than the adopted regulations.

REJECTED PROPOSED ALTERNATIVE THAT WOULD LESSEN THE ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES

(Government Code Section 11346.9(a)(5))

No acceptable proposed alternatives were received by the Department of Housing and Community Development that would lessen the adverse economic impact on small businesses.