

# Public Comments with Task Group Recommendations

June 4, 2015

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## Chapter 2: Definitions

PC001 LogID 6146	202 Definitions	Final Formal Action: TBD
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	REUSE. To divert a <u>construction material</u> , product, component, module, or a building from the <u>C&amp;D waste stream, <u>without processing the material</u>, in order to use it again <u>in its original form</u>.</u>	
<b>Reason:</b>	We suggest clarifying that the definition of “Reuse” is intended to apply to construction materials, rather than just materials. Without the specificity, “material” could be understood to encompass resources such as water. Meanwhile, water reuse has a slightly different meaning than the construction-material reuse. (Water reuse is generally synonymous with both water recycling and water reclamation. Do note that if contrary to our understanding, the original intent was to include water, the definition of “recycle” would need to broaden as well.) The NGBS proposed definition of reuse does not fully capture the difference between recycling of construction materials and reuse of construction materials; the difference is that reuse does not include the material processing that is characteristic of recycling. Finally, referring to “waste stream” broadly appears potentially inclusive of types of wastes that are not necessarily non-hazardous. Our proposed solution is to specify that the definition applies to construction materials and not materials more broadly. Re-word the definition so that it is clear that “reuse” does not encompass processing of the construction material, but maintains the material in its original form. Specify that the waste stream from which materials are diverted is the non-hazardous, C&D, waste stream.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	<i>Revise Draft Standard as follows:</i> REUSE. To divert a <u>construction material</u> , product, component, module, or a building from the <u>construction and demolition waste stream, <u>without recycling the material</u>, in order to use it again.</u>	
<b>Task Group Reason:</b>	The comment creates clarity and the task group felt referencing that the product could not be recycled addressed what reuse is supposed to be about.	
<b>Task Group Vote:</b>	7-0-0	

PC002 LogID 6134	202 Definitions	Final Formal Action: TBD
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	INVASIVE PLANTS. Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. <del>Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.</del> <u>For the purposes of compliance with this standard, invasive plants are those that are included on local, state, or regional lists of plants determined to cause environmental harm and shall not be limited to those plants covered by law or regulation.</u>	
<b>Reason:</b>	It is our understanding that the intent of this standard is to encourage home builders to encourage building practices that are beyond that which is already required by regulation. However, the proposed definition of “Invasive Plants” would effectively: a) Allow builders to gain many points in site and lot development by doing little to nothing that is not already addressed by regulation. This not only is inconsistent with the goals of the rating system, but also reduces the builders’ attention to, and incorporation of, other building practices that provide beyond-regulation benefits. See provisions 403.1(5), 403.1(6), 503.5(10), 503.5 (11), 11.503.5(10), and 11.503.5(11). Or b) Render meaningless some of the restrictions included the standard’s provisions. See 403.6(3), 403.6(5), 503.5(2), 503.5(3), 505.2(2), 11.503.5(2), 11.503.5(3), and 11.505.2(2). The proposed definition of “invasive plants” is as follows: “Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.” The first sentence is a definition. The second sentence attempts to clarify the definition. In doing so, however, it effectively tells the standard user that it is acceptable to limit the project’s consideration of invasive plants to those	

	included on governmental lists. The builder may as a result refer only to lists of plants covered by regulation (which typically refer to invasive plants as “noxious weeds”). Fourteen different provisions refer to invasive or non-invasive plants. To ensure that the users of the standard are implementing these provisions in the intended fashion, it would be helpful to clarify to users that noxious weeds lists are insufficient as the bases for these provisions. It may also be helpful to provide examples of lists of plants that have been determined to cause environmental harm but are not regulated. Such lists exist all over the country and are applicable to the state or local ecoregion. Sometimes individual states or the regional branch of a Federal Agency posts such a list, and other times the local governments and public may rely on lists created by invasive plant councils. Such examples, however, however, may be more suitable for the NGBS Commentary. We therefore suggest that, for the purpose of the language in the standard itself, that the definition be revised as we propose below.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	7-0-0

<b>PC003 LogID 6131</b>	<b>202 Definitions</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	<b>ENVIRONMENTALLY SENSITIVE AREAS.</b> 1. Areas within wetlands as defined by federal, state, or local regulations; 2. Areas of steep slopes; 3. “Prime Farmland” as defined by the U.S. Department of Agriculture; 4. Areas of “critical habitat” for any federal or state threatened or endangered species; 5. Areas defined by state or local jurisdiction as environmentally sensitive. <u>6. Shoreline buffers that have important environmental functions as identified by the state or local jurisdiction, e.g., shoreline stability, pollutant removal, streamside shading, ecological flow protection.</u>	
<b>Reason:</b>	The addition of “stream protection areas” to 403.12(1) as an example of an environmentally sensitive area is a good one, but it creates an inconsistency with the definition of “environmentally sensitive areas” in Section 202. A solution could be to add “Stream protection areas” to the list now included in the definition, but that would be less precise than other elements now listed there. We suggest here some language that is more consistent with those other elements, and we recommend revising the language in 403.12 to remove the redundancy with the definition.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Reason above from commenter and “renewable energy source” are also defined in the 2012 NGBS.	
<b>Task Group Vote:</b>	7-0-0	

<b>PC004 LogID 6160</b>	<b>202 Definitions</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	Todd Jones	
<b>Public Comment:</b>	Renewable Energy. Energy derived from renewable energy <u>sources</u> .	
<b>Reason:</b>	The definition of renewable energy is circular (self-referencing).	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		

<b>Task Group Reason:</b>	Reason above from commenter and “renewable energy source” are also defined in the 2012 NGBS.
<b>Task Group Vote:</b>	7-0-0

PC 005 LogID 6006	202 Definitions	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Doug Johnson	
<b>Public Comment:</b>	Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. <del>Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by as applicable. This includes all invasive plants identified on lists created or approved by applicable governmental entities. Consideration for inclusion shall also include all invasive plants listed by non-governmental organizations which assess and list invasive plants for the geographical region of interest based on applicable standards from ASTM or other standards bodies.</del>	
<b>Reason:</b>	The definition of “invasive plant” is a good start, but is not sufficient. The definition says, “Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.” First, compliance with any governmentally-approved list should not be a consideration, it should be a requirement. Second, the completeness of lists created or approved by government entities is variable. While some states and municipal governments have made the attempt to address this issue in a thorough manner, many have not. Government lists, such as noxious weed lists, are developed for particular regulatory goals, often having to do with agriculture. In such cases, lists developed by state Invasive Plant Councils like ours (similar groups are active in 30 states) are more complete and relevant to the application of landscaping guidelines. Our lists are generated with broad expert input from academia and the range of agencies involved in land management. We focus on environmental impacts, which is of direct relevance to landscaping guidelines. (We do not at this point take into account economic impacts, either positive or negative.) Our lists already serve as de facto references for land managers. In some states, like California, they have also served as the basis for landscaping guidelines, like through the PlantRight program. In order strengthen building code use of our lists, we are pursuing an ASTM standard for assessing and listing invasive plants based on their environmental impact. This standard has been in development for two years, and could be complete as early as this spring.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	INVASIVE PLANTS. Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. <del>Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.</del> <u>For the purposes of compliance with this standard, invasive plants are those that are included on local, state, or regional lists of plants determined to cause environmental harm and shall not be limited to those plants covered by law or regulation.</u>	
<b>Task Group Reason:</b>	The language submitted with Public Comment 002 was found to be clearer and addresses the concerns of the commenter.	
<b>Task Group Vote:</b>	7-0-0	

PC006 LogID 6007	202 Definitions	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Read Porter	
<b>Public Comment:</b>	<del>INVASIVE PLANTS: A p</del> Plants for which the species are <u>that is</u> not native to the ecosystem under consideration and that causes, or <u>are is</u> likely to cause, economic or environmental harm or harm to human, animal or plant health. <del>Consideration for inclusion as i</del> nvasive plants shall include, at a minimum: <u>(i) those all</u> plants identified on <u>any lists of noxious, invasive, or harmful terrestrial or aquatic plants</u> created or approved by <u>a governmental entity with jurisdiction in a given location;</u> and <u>(ii) all plants included on any list of noxious, invasive, or harmful plants tha</u> t applies to the location and <u>was created or approved by a third party through a credible process</u> ies as applicable.	
<b>Reason:</b>	The definition of invasive plants in this draft standard is poorly drafted and under-inclusive. It requires improvement to adequately cover the full range of invasive plants identified by the scientific	

	<p>community. We recognize that this definition is primarily based on the definition of invasive species as defined by the US federal government in Executive Order 13112, which is a reasonable basis for a definition. However, modifications to the draft as indicated here undermine the clarity of the definition. Proposed amendments to the definition as presented with this comment will remove unnecessary and confusing verbiage that may undermine application of the definition in practice. In particular, it is not clear what “plants for which the species are not native...” is intended to mean, or how it may differ from a simpler construction, e.g., “a plant that is not native...” We suggest amending this clause as indicated in our proposed revision. Second, we note that the minimum standards for plants qualifying as invasive are unnecessarily vague. It would seem to be common sense that any plant that is known to be harmful should be excluded from use in green buildings, so mere “consideration for inclusion” as invasive plants under this standard is not sufficient to achieve the goal of this standard. A less vague and more appropriate formulation, as offered in our proposed language, would simply delete “consideration for inclusion.” The reference in the definition to “the ecosystem under consideration” may require further clarification in the context of this standard. Users, and particularly those in highly disturbed urban areas, may view the ecosystem narrowly to mean the area directly surrounding a development. This understanding may be incompatible with scientific understanding of the movement of plants across a landscape (including spread from developed areas into natural areas) and of the diverse and important ecosystems and habitats that remain inside the urban fabric (e.g., parks). We recommend an additional definition of “ecosystem” or an explanatory note that clarifies the meaning of this term. We further note that the definition’s characterization of “lists created or approved by governmental entities” is under-inclusive. First, in many locations, government noxious weed lists are limited to plants that are agricultural weeds or poisonous to livestock—and they exclude many plants that are known to be harmful. Non-governmental and quasi-governmental entities, such as the state members of the National Association of Invasive Plant Councils, have created more comprehensive lists of invasive plants in particular areas. These groups commonly bring together state, conservation, and industry representatives to identify these problematic species. To ensure adequate coverage of invasive plants, the definition should require users to consider lists of invasive plants created by non-governmental or quasi-governmental entities and to apply such lists that are credible. The reference to government lists is not only under-inclusive, but also is vague. Government entities create multiple types of lists, including those covering noxious and invasive plants with differing degrees of current and potential future harm. The definition should be clear that a species included on any applicable list of invasive, noxious, or harmful terrestrial or aquatic plants is an invasive plant for the purposes of this definition, whether or not the listing results in legal restrictions on use.</p>
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	<p>INVASIVE PLANTS. Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. <del>Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.</del> <u>For the purposes of compliance with this standard, invasive plants are those that are included on local, state, or regional lists of plants determined to cause environmental harm and shall not be limited to those plants covered by law or regulation.</u></p>
<b>Task Group Reason:</b>	The language submitted with Public Comment 002 was found to be clearer and addresses the concerns of the commenter.
<b>Task Group Vote:</b>	6-0-0

<b>PC007 LogID 6008</b>	<b>202 Definitions</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	David Gorchov	
<b>Public Comment:</b>	Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by <del>governmental entities</del> state invasive species councils (IPCs) as applicable.	
<b>Reason:</b>	'Invasive Plants': Rather than focusing on government lists, the primary source of a list of invasive species should be the lists of the state Invasive Plant Council (IPC), where this is available. The reason is that many states list only those plant species that are regulated, e.g. sale is prohibited. These species	

	could not be planted anyhow, regardless of whether a project seeks certification. IPC lists more completely cover invasive plant species, regardless of whether the state has decided to regulate.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	INVASIVE PLANTS. Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. <del>Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.</del> <u>For the purposes of compliance with this standard, invasive plants are those that are included on local, state, or regional lists of plants determined to cause environmental harm and shall not be limited to those plants covered by law or regulation.</u>
<b>Task Group Reason:</b>	The language submitted with Public Comment 002 was found to be clearer and addresses the concerns of the commenter.
<b>Task Group Vote:</b>	6-0-0

<b>PC008 LogID 6010</b>	<b>202 Definitions</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Sara Kuebbing	
<b>Public Comment:</b>	INVASIVE PLANTS: Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal, or plant health. Consideration for inclusion as an invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities <u>or lists developed by state-based members of the National Association of Invasive Plant Councils.</u>	
<b>Reason:</b>	<p>I am writing to comment on the National Green Building Standard ANSI Standard Public Comment Draft, dated March 6, 2015. I am a plant ecologist who studies the impacts of nonnative plant species on native communities and ecosystems, and am currently working as a postdoctoral research scholar at the Yale School of Forestry and Environmental Studies. I am very encouraged to see that Home Innovation has incorporated definitions and credits to discourage the planting of nonnative, invasive plants in developments following the National Green Building Standard. As you may be aware, the intentional planting of nonnative species in landscaping has unfortunately been an important introduction pathway for many invasive plant species, which have spread far beyond their original planting sites in landscaped homes and gardens. For example, Professors Sarah Reichard and Clement Hamilton of University of Washington found that 82% of the woody invasive species found in the United States were widely planted and sold for landscaping and horticultural purposes<sup>1</sup>. The inclusion of nonnative, invasive species in building industry standards such as this is a critical step in preventing the future spread and introduction of nonnative, invasive species. However, while I am pleased with the intention of the current draft standard, I think that the language falls short in clearly outlining and guiding the selection of nonnative species that developers should avoid: The reliance on lists created or approved by governmental entities is not sufficient for identifying and preventing the use of potential invasive plants in green building landscapes (“Invasive plants” definition, Chapter 2, Section 202 Definitions “Invasive Plants”). Government lists are notoriously conservative in their listing of invasive plant species, and therefore are not comprehensive enough to guide green building standards that aim to promote environmentally conscious development. For example, I served on the Board of Directors of the Tennessee Exotic Pest Plant Council (<a href="http://www.tneppc.org">www.tneppc.org</a>), a non-profit organization dedicated to raising public awareness and serving an educational and advisory role about nonnative, invasive plants in Tennessee. Part of the organization’s role is maintaining a list of nonnative, invasive plants within the state, and TN EPPC currently lists 136 nonnative, invasive plant species. The overlap between TN EPPC’s 136 invasive plant species and federal (US Department of Agriculture’s Noxious Weed List<sup>2</sup>) and state (Tennessee’s Department of Agriculture Pest Plant Rule<sup>3</sup>) invasive plant lists is only 15 plant species. There are a few reason for the stark differences between governmental lists and lists produced by organizations like TN EPPC. First, governmental lists tend to arise from Departments of Agriculture, which are institutionally and directorially more focused on problematic plants in agricultural or silvicultural settings, not in natural areas where invasive plants are also problematic. Second, the listing process for federal and state agencies can be very slow and therefore not reflect many plants that are known to already be causing substantial environmental harm.<sup>4</sup> This phenomenon of mismatch between</p>	

	governmental and state plant-council is common and not just in Tennessee. Many states have organizations similar to TN EPPC that maintain more extensive lists for invasive plants in the state. These lists are credible, and more accurately represent the likelihood of invasion and future harm for nonnative species within that state. For the reasons stated above, I would encourage this body to adopt language that promotes lists created by state-based organizations that identify themselves as invasive plant councils, exotic pest plant councils, or exotic, invasive plant committees. The National Association of Invasive Plant Councils ( <a href="http://www.naeppc.org/">http://www.naeppc.org/</a> ) maintains a list and clearinghouse for many (but not all) of these state-based invasive plant organizations, which may be good guidance for your standard.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	<del>INVASIVE PLANTS. Plants for which the species are not native to the ecosystem under consideration and that cause, or are likely to cause, economic or environmental harm or harm to human, animal or plant health. Consideration for inclusion as invasive plants shall include at a minimum those plants identified on lists created or approved by governmental entities as applicable.</del> <u>For the purposes of compliance with this standard, invasive plants are those that are included on local, state, or regional lists of plants determined to cause environmental harm and shall not be limited to those plants covered by law or regulation.</u>
<b>Task Group Reason:</b>	The language submitted with Public Comment 002 was found to be clearer and addresses the concerns of the commenter. Moreover it is not clear that all locations would be covered by lists prepared by the stated national association.
<b>Task Group Vote:</b>	6-0-0

PC009 LogID 6021	202 Definitions	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Roger L. LeBrun	
<b>Public Comment:</b>	Either revert to the prior definition, or change to:  The inverse of the time rate of heat flow through a <u>continuous</u> building thermal envelope <del>element assembly</del> from one of its bounding surfaces to the other for a unit temperature difference between the two surfaces, under steady state conditions, per unit area ( $h \times ft^2 \times \text{°F/Btu}$ ).	
<b>Reason:</b>	R-VALUE definition was changed in a way that might be improperly applied to fenestration items. For a product that has variable thermal properties across its exposed surfaces, the R-Value is proven inaccurate as defined.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	<b>R-Value (Thermal Resistance).</b> The inverse of the time rate of heat flow through a body from one of its bounding surfaces to the other surface for a unit temperature difference between the two surfaces, under steady state conditions, per unit area ( $h \cdot ft^2 \cdot \text{°F/Btu}$ ) [ $(m^2 \cdot K)/W$ ].	
<b>Task Group Reason:</b>	The NGBS should reflect the current definition in the IECC 2015 and this proposal isn't consistent with what the TG believes should be in the NGBS.	
<b>Task Group Vote:</b>	7-0-0	

PC010 LogID 6022	202 Definitions	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Roger L. LeBrun	
<b>Public Comment:</b>	RENEWAL ENERGY. Energy derived from renewable energy <del>sources</del> <u>sources</u> .	
<b>Reason:</b>	RENEWAL ENERGY Replace the stricken word "sources" as shown. Otherwise the defined term is defined by itself only.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	



<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Reason above from commenter and “renewable energy source” are also defined in the 2012 NGBS.
<b>Task Group Vote:</b>	7-0-0

PC011 LogID 6023	202 Definitions	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Roger L. LeBrun	
<b>Public Comment:</b>	<b>VAPOR RETARDER CLASS.</b> .... A measure of the ability of a material or assembly to limit the amount of moisture that passes through that material or assembly. <del>Vapor retarder class shall be</del> defined using the desiccant method, <u>with</u> Procedure A of ASTM E 96 as follows:	
<b>Reason:</b>	VAPOR RETARDER CLASS condense definitions to one sentence whenever possible.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	The current definition is consistent with IRC and TG believes that to be appropriate.	
<b>Task Group Vote:</b>	8-0-0	

PC012 LogID 6074	202 Definitions	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Chuck Arnold	
<b>Public Comment:</b>	<u>Energy derived from renewable energy produced by a renewable energy source.</u>	
<b>Reason:</b>	Renewable Energy - The term being defined should not be used to define it.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Based on action from PC010 and PC004, and energy source is not necessarily “produced” and TG did not agree with proposed change.	
<b>Task Group Vote:</b>	7-0-0	

PC013 LogID 6084	202 Definitions	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Chuck Arnold	
<b>Public Comment:</b>	A building erected prior to the date of adoption of the appropriate code, or one for which a legal building <u>occupancy</u> permit has been issued.	
<b>Reason:</b>	Clarification for Existing Building. An occupancy permit is different than a building permit	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	<i>Revise Draft Standard as Follows:</i> A building erected prior to the date <del>of adoption</del> of the <u>current adopted building appropriate</u> code, or one for which a legal building <u>occupancy</u> permit has been issued.	
<b>Task Group Reason:</b>	Clarification	
<b>Task Group Vote:</b>	6-0-1	

PC014 LogID 6198	202 Definitions	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Craig Conner	

<b>Public Comment:</b>	<b>CONDITIONED SPACE.</b> An area, room or space that is enclosed within the building thermal envelope and that is <u>directly or</u> indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate thru openings with conditioned spaces, where they are separated from conditioned spaces by uninsulated walls, floors or ceilings or where they contain uninsulated ducts, piping or other sources of heating or cooling.
<b>Reason:</b>	Conditioned space includes "directly" conditioned space.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Accept because this changes makes the definition consistent with the I-Codes.
<b>Task Group Vote:</b>	8-0-0

## Chapter 3: Compliance Method

<b>PC015</b> LogID 6091	<b>302.1 Site design and development (Green subdivisions)</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Michelle Desiderio	
<b>Public Comment:</b>	Site design and development (Green subdivisions communities)	
<b>Reason:</b>	I propose an editorial change to use the term "green Community" as opposed to "Green Subdivision." Subdivision is an industry term-of-art that is not widely used outside the industry and has a pejorative connotation.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	TG believes the term community too broad in this application.	
<b>Task Group Vote:</b>	8-0-0	

<b>PC016</b> LogID 6101	<b>303.1 Green buildings</b>	<b>Final Formal Action: TBD</b>																																																																			
<b>Submitter:</b>	aaron gary																																																																				
<b>Public Comment:</b>	<p style="text-align: center;"><b>Table 303</b></p> <p style="text-align: center;"><b>Threshold Point Ratings for Green Buildings</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" rowspan="2">Green Building Categories</th> <th colspan="4">Rating Level Points <sup>(1) (2)</sup></th> </tr> <tr> <th>BRONZE</th> <th>SILVER</th> <th>GOLD</th> <th>EMERALD</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Chapter 5</td> <td>Lot Design, Preparation, and Development</td> <td>50</td> <td>64</td> <td>93</td> <td>121</td> </tr> <tr> <td>2.</td> <td>Chapter 6</td> <td>Resource Efficiency</td> <td>43</td> <td>59</td> <td>89</td> <td>119</td> </tr> <tr> <td>3.</td> <td>Chapter 7</td> <td>Energy Efficiency</td> <td>30</td> <td><del>60</del>45</td> <td><del>80</del>60</td> <td><del>100</del>70</td> </tr> <tr> <td>4.</td> <td>Chapter 8</td> <td>Water Efficiency</td> <td>25</td> <td>39</td> <td>67</td> <td>92</td> </tr> <tr> <td>5.</td> <td>Chapter 9</td> <td>Indoor Environmental Quality</td> <td>25</td> <td>42</td> <td>69</td> <td>97</td> </tr> <tr> <td>6.</td> <td>Chapter 10</td> <td>Operation, Maintenance, and Building Owner Education</td> <td>8</td> <td>10</td> <td>11</td> <td>12</td> </tr> <tr> <td>7.</td> <td></td> <td>Additional Points from Any Category</td> <td>50</td> <td>75</td> <td>100</td> <td>100</td> </tr> <tr> <td colspan="3" style="text-align: right;"><b>Total Points:</b></td> <td><b>231</b></td> <td><b><del>349</del>334</b></td> <td><b><del>509</del>489</b></td> <td><b><del>641</del>611</b></td> </tr> </tbody> </table> <p>(1) In addition to the threshold number of points in each category, all mandatory provisions of each category shall be implemented.</p>		Green Building Categories			Rating Level Points <sup>(1) (2)</sup>				BRONZE	SILVER	GOLD	EMERALD	1.	Chapter 5	Lot Design, Preparation, and Development	50	64	93	121	2.	Chapter 6	Resource Efficiency	43	59	89	119	3.	Chapter 7	Energy Efficiency	30	<del>60</del> 45	<del>80</del> 60	<del>100</del> 70	4.	Chapter 8	Water Efficiency	25	39	67	92	5.	Chapter 9	Indoor Environmental Quality	25	42	69	97	6.	Chapter 10	Operation, Maintenance, and Building Owner Education	8	10	11	12	7.		Additional Points from Any Category	50	75	100	100	<b>Total Points:</b>			<b>231</b>	<b><del>349</del>334</b>	<b><del>509</del>489</b>	<b><del>641</del>611</b>
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	(2) For dwelling units greater than 4,000 square feet (372 m <sup>2</sup> ), the number of points in Category 7 (Additional Points from Any Category) shall be increased in accordance with Section 601.1. The “Total Points” shall be increased by the same number of points.
<b>Reason:</b>	Chapter 7 point thresholds do not align with new point values within the chapter.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Consistent with TG5 approval of recommended points
<b>Task Group Vote:</b>	9-0-0

PC017 LogID 6102	304.1 Multi-unit buildings	Final Formal Action: TBD
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	304.1 Multi-unit buildings. All residential portions of a building shall meet the requirements of this Standard. Partial compliance shall not be allowed. Unless otherwise noted, all units <del>and residential common areas</del> within a multi-unit building shall: 1) meet all mandatory requirements; and 2) achieve the point threshold required for the chosen environmental rating level in accordance with Table 303; and 3) achieve the same environmental rating level. <u>Residential common areas shall: 1) meet all mandatory requirements; and 2) achieve the same practices as the units, as applicable.</u> Points for the green building practices that apply to multiple units shall be credited once for the entire building. Where points are credited, including where a weighted average is used, practices shall be implemented in all units, as applicable. Where application of a prescribed practice allows for a different number of points for different units in a multi-unit building, the fewer number of points shall be awarded, unless noted that a weighted average is used.	
<b>Reason:</b>	For multi-unit buildings that have shared common space it may not be possible for some spaces to achieve the required point threshold in a chapter because there are not applicable point available given the use, even though they are built to the same standards. For example a lobby of an NGBS Silver building that has no water fixtures will not be able to achieve 39 points.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	TG 1 – Accept as Modified TG 6 – Accept as Modified	
<b>Modification of Public Comment:</b>	<p>TG 1 – <i>Revise Public Comment as Follows (Changes shown in red):</i> 304.1 Multi-unit buildings. All residential portions of a building shall meet the requirements of this Standard. Partial compliance shall not be allowed. Unless otherwise noted, all units <del>and residential common areas</del> within a multi-unit building shall: 1) meet all mandatory requirements; and 2) achieve the point threshold required for the chosen environmental rating level in accordance with Table 303; and 3) achieve the same environmental rating level. <u>Residential common areas shall: 1) meet all mandatory requirements; and 2) achieve the same <del>practices</del>compliance as the units, as applicable.</u> Points for the green building practices that apply to multiple units shall be credited once for the entire building. Where points are credited, including where a weighted average is used, practices shall be implemented in all units, as applicable. Where application of a prescribed practice allows for a different number of points for different units in a multi-unit building, the fewer number of points shall be awarded, unless noted that a weighted average is used.</p> <p>TG 6 – 304.1 Multi-unit buildings. All residential portions of a building shall meet the requirements of this Standard. Partial compliance shall not be allowed. Unless otherwise noted, all units and residential common areas within a multi-unit building shall: 1) meet all mandatory requirements; and 2) achieve the point threshold required for the chosen environmental rating level in accordance with Table 303; and 3) achieve the same environmental rating level. Points for the green building practices that apply to multiple units shall be credited once for the entire building. Where points are credited, including where</p>	

	a weighted average is used, practices shall be implemented in all units, as applicable. Where application of a prescribed practice allows for a different number of points for different units in a multi-unit building, the fewer number of points shall be awarded, unless noted that a weighted average is used. <u>Green building practices may include different requirements for residential common areas and units as stated.</u>
<b>Task Group Reason:</b>	TG 1 – TG agrees with the change but believes word “compliance” is more appropriate than “practice.”  TG 6 – The task group agrees the standard may benefit from more clarity concerning common areas and should acknowledge that common areas may not contain the same elements as dwelling units. Alternatively, the standard has provisions that only apply to common areas. We suggest the above language to address this issue. Examples of “as stated” include LogID 6104 and 6158 that specifically note applicability in dwelling units only.
<b>Task Group Vote:</b>	TG 1 – 8-0-0 TG 6 – 8-0-0

<b>PC018 LogID 6092</b>	<b>304.1 Multi-unit buildings</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Michelle Desiderio
<b>Public Comment:</b>	304.1 <del>Multi-unit</del> <u>Multifamily</u> buildings  All subsequent uses of multi-unit would be revised to multifamily
<b>Reason:</b>	Wholesale change from the term multi-unit to multifamily with no change to the definition. Multi-unit is used within the industry but not without the industry and is not as relevant a term to most people. For the NGBS to be successful broadly we need to use terms that are more commonly used and have more meaning outside the residential construction industry.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	TG 1 – Accept TG 6 – Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	TG 1 – 9-0-0 TG 6 – 8-0-0

<b>PC019 LogID 6144</b>	<b>305.3.1 Applicability (Whole-building rating criteria)</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Keith Dennis
<b>Public Comment:</b>	The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings <del>or source energy savings</del> as determined by a third-party energy audit and analysis or utility consumption data. <del>The source energy multiplier for electricity shall be 3.16. The source energy multiplier for fuels other than electricity shall be 1.1.</del>
<b>Reason:</b>	The source energy metric suggested in this section is deeply flawed. Assuming that electricity is 3.16 times less efficient than on-site fossil fuel combustion is based on a methodology that treats non-carbon emitting sources like solar, wind, biomass, hydro and nuclear as if they are extremely inefficient coal power plants. Using a source energy value of 3.16 and related methodologies means that any renewable energy on the grid will be treated as if it is more than 3X less efficient than fossil fuel combustion of site. Among the serious flaws in this approach is that even if the grid were 100% powered by renewable energy, consumers would be directed to burn fossil fuel in order to meet “green” codes. This is a in direct opposition to the intent of this code. Source values for other fuels suggested are also inaccurate. For a more detailed study on this issue prepared by Power Systems Engineering, see: <a href="http://www.nreca.coop/wp-content/uploads/2015/04/sourcesite_ratios_final_022015.pdf">http://www.nreca.coop/wp-content/uploads/2015/04/sourcesite_ratios_final_022015.pdf</a>
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept

<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	TG accepts the reason statement above.
<b>Task Group Vote:</b>	7-0-2

PC020 LogID 6085	305.3.5 Energy efficiency	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Chuck Arnold	
<b>Public Comment:</b>	[(consumption per square foot before remodel – consumption per square foot after remodel)/consumption per square foot before remodel]*100%	
<b>Reason:</b>	Formula needs editing to eliminate the percent sign.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Accept reason above.	
<b>Task Group Vote:</b>	9-0-0	

PC021 LogID 6051	305.3.5 Energy efficiency	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Steven Rosenstock	
<b>Public Comment:</b>	<p><b>305.3.5.1 Energy consumption reduction.</b></p> <p><b>The reduction in energy consumption resulting from the remodel shall be based on the estimated annual energy cost savings or source energy savings as determined by a third-party energy audit and analysis or utility consumption data. The source energy multiplier for electricity shall be 3.16. The source energy multiplier for fuels other than electricity shall be 1.1.</b></p>	
<b>Reason:</b>	The source energy language is not consistent with previous versions of the NGBS. The values are not correct and not consistent with many other published estimates. For example, different fossil fuels have significantly different estimates. For electricity, the estimates vary widely by region of the country or the world. In addition, this will penalize customers that purchase renewable electricity from the grid.	
<b>Substantiating Documents:</b>	Yes, substantiating documents can be found at <a href="http://homeinnovation.com/ngbs">homeinnovation.com/ngbs</a> under the Public Comments section	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Based on reasons from PC019 and PC021.	
<b>Task Group Vote:</b>	7-0-2	

## Chapter 4: Site Design and Development

PC022 LogID 6034	403.1 Natural resources	Final Formal Action: TBD
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	<div style="border: 1px solid black; padding: 5px;"> <p><del>(6)</del> Developer has a plan for removal or containment of invasive plants, as identified by a qualified professional, on the undisturbed areas of the site.</p> </div>	<del>6</del>
	Why duplicated? Missing a percentage?	
<b>Reason:</b>	Item 5 and 6 in natural resources are identical but have different values.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Missed distinction. Item 5 disturbed area, item 6 undisturbed area	
<b>Task Group Vote:</b>	7-0-0	

PC023 LogID 6133	403.1 Natural resources	Final Formal Action: TBD
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	Section 403.12: <del>Environmentally sensitive areas including steep slopes, prime farmland, critical habitats, stream protection areas, and wetlands are avoided as follows:</del> ...	
<b>Reason:</b>	The addition of "stream protection areas" to 403.12(1) as an example of an environmentally sensitive area is a good one, but it creates an inconsistency with the definition of "environmentally sensitive areas" in Section 202. We have submitted a separate comment to amend the definition. Here we recommend revising the language in 403.12 to remove the redundancy with the definition.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	7-0-0	

PC024 LogID 6093	403.1 Natural resources	Final Formal Action: TBD
<b>Submitter:</b>	Siyang Zhang	
<b>Public Comment:</b>		
<b>Reason:</b>	Clarify 403.1(6), what's the different requirement for (5) and (6)?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Based on previous action	
<b>Task Group Vote:</b>	7-0-0	

PC025 LogID 6147	403.11 Demolition of existing building	Final Formal Action: TBD
<b>Submitter:</b>	Susan Gitlin	

<b>Public Comment:</b>	(One additional point awarded for every 10 percent of <u>nonhazardous</u> demolition waste recycled and/or salvaged beyond 50 percent).
<b>Reason:</b>	The first paragraph specifically states that the demolition waste should be nonhazardous. For clarity reasons, the “nonhazardous” condition should be included in the parenthetical note about additional points. It also is not clear if the “3” and “2” that have been added in the points column are referring to Section 403.10 or 403.11. Solution: Add the word “nonhazardous” to the parenthetical note about additional points. Clarify the intended number of points for this section.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	Base number of points should be 5 not to exceed 10 points.
<b>Task Group Reason:</b>	Was unclear
<b>Task Group Vote:</b>	7-0-0

<b>PC026 LogID 6038</b>	<b>403.11 Demolition of existing building</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	<p><b>403.11 Demolition of existing building.</b> A demolition waste management plan is developed, posted at the jobsite, and implemented to recycle and/or salvage <del>with a goal of recycling or salvaging</del> for reuse a minimum of 50 percent of the nonhazardous demolition waste.</p> <p>(One additional point awarded for every 10 percent of demolition waste recycled and/or salvaged beyond 50 percent).</p>	
<b>Reason:</b>	Do we simply want a goal, or actually recycling and salvaging?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	7-0-0	

<b>PC027 LogID 6035</b>	<b>403.5 Stormwater management</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	<p><b>(2)</b> A hydrologic analysis is conducted that results in the design <u>and installation</u> of a stormwater management system that maintains the predevelopment (stable, natural) runoff hydrology of the site through the development or redevelopment process. Ensure that post construction runoff rate, volume and duration do not exceed predevelopment rates, volume and duration.</p>	<b>10</b>
<b>Reason:</b>	Is this JUST design or design AND construction/implementation? I read this to read “no run-off” period.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	7-0-0	

<b>PC028 LogID 6036</b>	<b>403.5 Stormwater management</b>	<b>Final Formal Action: TBD</b>
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<b>Submitter:</b>	David S. Collins, FAIA
<b>Public Comment:</b>	<del>Green infrastructure stormwater management</del> Low impact development practices to promote infiltration and evapotranspiration such as, but not limited to, vegetated swales, bio-retention cells, vegetated tree boxes and planters, green roofs, rain gardens, wetlands, french drains, drywells, or permeable pavements are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events:
<b>Reason:</b>	No! Stormwater management is only one of several aspects of LID
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Wish to keep existing language for clarity
<b>Task Group Vote:</b>	7-0-0

<b>PC029 LogID 6011</b>	<b>403.5 Stormwater management</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Greg Johnson	
<b>Public Comment:</b>	Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration such as, but not limited to, vegetated swales, bio-retention cells, vegetated tree boxes and planters, green roofs, rain gardens, wetlands, french drains, drywells, <u>lawns</u> or permeable pavements are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events	
<b>Reason:</b>	The list of Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration should include lawns. Grassed areas provide considerable infiltration capacity on low-sloped, level, and sunken sites. Even on higher sloped sites grass provides sheet flow control, slowing run-off and allowing it to infiltrate.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	(3) Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration <del>such as, but not limited to, vegetated swales, bio-retention cells, vegetated tree boxes and planters, green roofs, lawns, and permeable pavements</del> are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events:	
<b>Task Group Reason:</b>	LID is already defined elsewhere	
<b>Task Group Vote:</b>	6-0-0	

<b>PC030 LogID 6094</b>	<b>403.5 Stormwater management</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Siyang Zhang	
<b>Public Comment:</b>	suggest 5 -10 points depending on the % of stormwater to be treated.	
<b>Reason:</b>	Any points for projects installing detention pond or vault to pre-treat the stormwater?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	No specific language proposed. Request unclear.	
<b>Task Group Vote:</b>	7-0-0	

<b>PC031 LogID 6119</b>	<b>403.5 Stormwater management</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Siyang Zhang	

<b>Public Comment:</b>	<u>a detention pond or vault is designed and built on-site to the standards that 80% of TSS is be removed for 90% of the storm event. 10 points.</u>
<b>Reason:</b>	Suggest points for projects installing detention pond or vault to pre-treat the stormwater?
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	New subject. Recommend consideration during next NGBS update.
<b>Task Group Vote:</b>	7-0-0

<b>PC032 LogID 6122</b>	<b>403.6 Landscape plan</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	Anthony Floyd	
<b>Public Comment:</b>	(2) <del>-6 Mandatory</del> (3) <del>-7 Mandatory</del>	
<b>Reason:</b>	Items 2 and 3 should be mandatory for all green building projects. All native plants and regionally appropriate plants should be conserved, maintained and reused to the greatest extent possible which is a reasonable expectation for all landscape designs (whether part of a green building project or not). Selecting native or regionally appropriate plants is a fundamental landscape design practice and should always be a prerequisite for sites associated with green buildings.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Does not accommodate urban agriculture. Unreasonable expectation.	
<b>Task Group Vote:</b>	7-0-0	

<b>PC033 LogID 6124</b>	<b>403.6 Landscape plan</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	Blaine Wilkins	
<b>Public Comment:</b>	<del>(5) Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height.</del>	
<b>Reason:</b>	The fifth item seems incompatible with this document. This is a design standard, but this proposed credit requires long-term care and maintenance for it to have any environmental benefit. I know of few homeowners who would maintain such a lawn as is described here. In my experience, a homeowner will apply -- or ask a landscaping service to apply -- weed killer to short flowering plants in their lawn. And how many homeowners who invest in a brand new home will let their lawns grow to 6" before mowing it? This is an unrealistic expectation. This practice may be workable if a homeowner elects to do it himself, but I do not know many who would do so. It certainly will have little beneficial impact if it is installed by a developer or builder unless it is designed to a particular homeowners's specifications. The points are easy, and the benefit is nil. Delete it.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	To be consistent with prior action	
<b>Task Group Vote:</b>	6-0-0	

<b>PC034 LogID 6009</b>	<b>403.6 Landscape plan</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	David Gorchov	

<b>Public Comment:</b>	Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height.
<b>Reason:</b>	Part 5 should be deleted. Many homeowners will view these plants as weed and apply herbicide to their lawns, with the potential for effects on non-target species, including pets, and potentially contaminating drinking water supplies. If the intention is enhance the sources of nectar and pollen for native pollinators, then plantings of appropriate native plants should be done in sites that are not lawns. The same concern applies to 503.5 item 3. and 11.503.5 item 3
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Substantial evidence submitted previously to the benefit of bee lawn.
<b>Task Group Vote:</b>	3-2-0

<b>PC035 LogID 6037</b>	<b>403.6 Landscape plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	Turf grass species, other vegetation, and trees that are native or regionally appropriate for local growing conditions are selected <del>giving consideration to</del> <u>to create</u> biodiversity and <u>limit</u> water use and specified on the lot plan. Non-invasive vegetation is selected.	
<b>Reason:</b>	How is "giving consideration" measured? There are no criteria to measure.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Deal with it in another comment.	
<b>Task Group Vote:</b>	6-0-0	

<b>PC036 LogID 6015</b>	<b>403.6 Landscape plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Greg Johnson	
<b>Public Comment:</b>	(3) <del>Turf grass species, other vegetation, and trees</del> <u>Non-invasive vegetation</u> that <del>are</del> <u>is</u> native or regionally appropriate for local growing conditions <del>are</del> <u>is</u> selected <del>giving consideration to</del> <u>is selected to</u> <del>biodiversity and water use and specified on the lot plan.</del> <u>promote</u> biodiversity. <del>and water use and specified on the lot plan is selected.</del> <u>Non-invasive vegetation is selected.</u>	
<b>Reason:</b>	Section 403.6 says that a landscape plan is developed, in part, to limit water use. Nothing is gained in item 5 by requiring further consideration of water use. Water use should be stricken from item 5. Item 5's requirements for specification on the landscape plan is similarly duplicative. The charging section of 403.6 addresses it -the whole section is about the plan. Requiring additional plan specificity is poor formatting of the standard. Bio-diversity in the landscape is already addressed by Sec. 403.7 which awards habitat supporting initiatives (automatically biodiverse) additional points. Finally, turfgrass and trees are vegetation and do not need to singled out in this item of the section. The proposed change to non-invasive vegetation is editorial.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	(3) <del>Turf grass species, other vegetation, and trees</del> <u>Non-invasive vegetation</u> that <del>are</del> <u>is</u> native or regionally appropriate for local growing conditions <del>are</del> <u>is</u> selected <del>giving consideration to</del> <u>is selected to</u> <del>biodiversity. and water use and specified on the lot plan is selected.</del> <u>promote</u> biodiversity. <del>and water use and specified on the lot plan is selected.</del> <u>Non-invasive vegetation is selected.</u>	
<b>Task Group Reason:</b>	Simplified language	
<b>Task Group Vote:</b>	6-0-0	

<b>PC037 LogID 6017</b>	<b>403.6 Landscape plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Brent Mecham	
<b>Public Comment:</b>	(1013) Plans for the common area landscape watering system include a weather-based or <u>soil</u> moisture-based controller. Required irrigation systems are designed in accordance with the Irrigation Association's <u>2014 Landscape Irrigation Best Management Practices</u> . <del>Turf and Landscape Best Management Practices.</del>	
<b>Reason:</b>	Add clarification that it is a soil moisture based controller The reference to the BMP document should be updated to the current version that was published in 2014.	
<b>Substantiating Documents:</b>	Yes, substantiating documents can be found at homeinnovation.com/ngbs under the Public Comments section	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	6-0-0	

<b>PC038 LogID 6177</b>	<b>403.6 Landscape plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Kent Sovocool	
<b>Public Comment:</b>	<b>403.6 Landscape plan.</b> A landscape plan is developed to limit water and energy use in common areas while preserving or enhancing the natural environment utilizing one or more of the following:	
	<b>(1)</b> A plan is formulated to restore or enhance natural vegetation that is cleared during construction. Landscaping is phased to coincide with achievement of final grades to ensure denuded areas are quickly vegetated.	<b>6</b>
	<b>(2)</b> On-site native or regionally appropriate trees and shrubs are conserved, maintained, and reused for landscaping to the greatest extent possible.	<b>6</b>
	<b>(3)</b> Turf grass species, other vegetation, and trees that are native or regionally appropriate for local growing conditions are selected <u>giving consideration to biodiversity and water use</u> and specified on the lot plan. Non-invasive	<b>5</b> <b>3</b>
	<b>(4)</b> <u>The EPA WaterSense Water Budget Tool may be used when determining the maximum percentage of turf areas. For landscapeable areas, the percentage of all turf areas is:</u> <del>The percentage of all turf areas are limited as part of the landscaping.</del>	
	<u>(a) 0 percent.</u>	<b>1</b> <b>0</b>
	<u>(b) Greater than 0 percent to less than 20 percent</u>	<b>8</b>
	<u>(c) 20 percent to less than 40 percent</u>	<b>6</b>
<u>(d) 40 percent to 60 percent</u>	<b>4</b>	
<b>Reason:</b>	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). The gravest impacts are to section 403.6 (4). This is where OPEI has lobbied for the diminishment of turf limitations as an option for reducing outdoor water demands. In the early stages of drought in 2003, my agency worked closely with a number of stakeholders including the Southern Nevada Home Builders Association (SNHBA) to implement a policy that limited the use of turfgrass for ornamental purposes. Why turfgrass? Our research has shown that lawns receive four times as much water as other water-efficient landscapes that may include trees, shrubs, flowers, vines and other adapted plants. Research in a variety of geographic settings has demonstrated that significant savings are realized where plantings other than turfgrass are used. Locally, these policies not only mitigated water demand, they quelled calls for a moratorium on growth and new construction. These policies have had no impact on quality of life and a	

	<p>positive impact on economic productivity. Both builders and homebuyers are free to plant some turfgrass and to select from a palette of more than 500 other plants for their landscapes. These landscape provisions, more than any other initiative, allowed us to reduce our use by almost 29 billion gallons between 2002 and 2012 while allowing homebuilders to create housing for nearly 500,000 new residents that have located in Southern Nevada since the policy went into effect. Appropriately used, turfgrass can provide benefits, but at a cost. Numerous studies have shown that better adapted plants can provide most or all of the functions of turfgrass with lower demand for water, fertilizer, fuel and maintenance. In many utilities, the benefits of turfgrass carbon sequestration are overwhelmed by the embedded electric energy in just a few inches of irrigation water. The NGBS has thus far provided for the earning of points with landscape plans that have turf limitations. These have been optional and allowed for regional diversification. They have worked successfully in conjunction with turf limits to provide for appropriate reward in water-scarce regions such as ours. While SNWA certainly is supportive of the WaterSense program and our proposed change continues to highlight it, in regions where there is already policy to limit the use of turfgrass, using the NGBS would necessitate a special set of calculations and assessments at each home being built, yet not change the outcome due to the regulatory environment. This additional difficulty may be a disincentive that results in builders shunning the NGBS in regions where water-scarcity has become a driving force. Our included background material demonstrates that these may occur at local municipal code levels as in southern Nevada well as state levels (California). The NGBS should allow regional flexibility by allowing builders to use such already requisite approaches while highlighting the WaterSense Water Budget Tool. It should appropriately incentivize and reward builders for doing so. And just doing the calculation is insufficient. This was obviously not the intent as per the original language. We want to assure that the work is actually done, something that may have unknowingly occurred in the standard development process. Our proposal addresses both these deficiencies. Finally, a number of point modifications have occurred that significantly reduce the emphasis on water efficiency in landscape design that SNWA's proposal counters. Good landscape design is crucial to water efficiency and it does involve real on the ground enhancements. It should rank highly in points-based systems thus the reallocation of points back to 403.6 (4).</p>										
<b>Substantiating Documents:</b>	Yes, substantiating documents can be found at <a href="http://homeinnovation.com/ngbs">homeinnovation.com/ngbs</a> under the Public Comments section										
<b>Task Group Recommendation:</b>	Accept as Modified										
<b>Modification of Public Comment:</b>	<table border="1"> <tr> <td><u>The EPA WaterSense Water Budget Tool may be is used when implementing the maximum percentage of turf areas; or for landscaped vegetated areas, the percentage of all turf areas is: The percentage of all turf areas are limited as part of the landscaping.</u></td> <td><u>7</u></td> </tr> <tr> <td><u>(a) 0 percent.</u></td> <td><u>105</u></td> </tr> <tr> <td><u>(b) Greater than 0 percent to less than 20 percent</u></td> <td><u>84</u></td> </tr> <tr> <td><u>(c) 20 percent to less than 40 percent</u></td> <td><u>63</u></td> </tr> <tr> <td><u>(d) 40 percent to 60 percent</u></td> <td><u>42</u></td> </tr> </table>	<u>The EPA WaterSense Water Budget Tool may be is used when implementing the maximum percentage of turf areas; or for landscaped vegetated areas, the percentage of all turf areas is: The percentage of all turf areas are limited as part of the landscaping.</u>	<u>7</u>	<u>(a) 0 percent.</u>	<u>105</u>	<u>(b) Greater than 0 percent to less than 20 percent</u>	<u>84</u>	<u>(c) 20 percent to less than 40 percent</u>	<u>63</u>	<u>(d) 40 percent to 60 percent</u>	<u>42</u>
<u>The EPA WaterSense Water Budget Tool may be is used when implementing the maximum percentage of turf areas; or for landscaped vegetated areas, the percentage of all turf areas is: The percentage of all turf areas are limited as part of the landscaping.</u>	<u>7</u>										
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<u>(c) 20 percent to less than 40 percent</u>	<u>63</u>										
<u>(d) 40 percent to 60 percent</u>	<u>42</u>										
<b>Task Group Reason:</b>	New language allows different climates around the country to receive points.										
<b>Task Group Vote:</b>	5-1-0										

<b>PC039 LogID 6184</b>	<b>403.6 Landscape plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Kent Sovocool	
<b>Public Comment:</b>	<p><del>(5) Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height.</del></p> <p><u>To improve pollinator habitat, at least 10% of planted areas are composed of non-invasive flowering and nectar producing plant species.</u></p>	
<b>Reason:</b>	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their	

	genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these is the introduction of a new concept which the proponent informally refers to as the “bee lawn” which draws upon research that has found that while a lawn composed of turfgrass provides only detrimental impacts to bee colonies, a lawn infested with flowering herbaceous plants can provide more benefits (though not at the levels of native vegetation). To this end OPEI suggests rewarding intentionally enhancing lawns in this way. But that is misleading as, in order to get the points, the major negative, putting in a monoculture composed of turfgrass, has to also happen. Again, the lawn itself is only detrimental to bees. Furthermore, a careful review shows only certain species can be facilitated by the limited plantings that can be maintained in a lawn, especially given most people mow their lawns to 4 inches or less. Research by the University of Kentucky has demonstrated that diversity of bee species declines precipitously where turfgrass is present and indeed there are even programs devoted to converting turfgrass areas to pollinator habitat. It is counterintuitive and highly strategic on OPEI’s part to attempt to promote a “bee lawn” as part of a sustainability initiative and it would be terrible to see the committee endorse the concept even as modified in prior deliberation. What we need are more flowering and nectar producing plants. SNWA’s proposal presents a way to do this with alternative plantings in no greater amounts that OPEI’s proposal but that is scientifically justifiable.
<b>Substantiating Documents:</b>	Yes, substantiating documents can be found at <a href="http://homeinnovation.com/ngbs">homeinnovation.com/ngbs</a> under the Public Comments section
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	(3) <u>Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height. To improve pollinator habitat, at least 10% of turf grass or other planted areas are composed of non-invasive flowering and nectar producing plant species. Plants in turf areas should be selected that flower at less than 4 inches in height.</u>
<b>Task Group Reason:</b>	Decreased height to accommodate for maintenance errors by future residents.
<b>Task Group Vote:</b>	4-0-0

<b>PC040 LogID 6185</b>	<b>405.1 Driveways and parking areas</b>	<b>Final Formal Action: TBD</b>								
<b>Submitter:</b>	Kent Sovocool									
<b>Public Comment:</b>	<table border="1"> <tr> <td><b>(4)</b> <del>Vegetative paving systems</del> <u>Water permeable surfaces</u> are utilized to reduce the footprint of surface driveways, fire lanes, streets or parking areas.</td> <td></td> </tr> <tr> <td><b>(a)</b> <u>10 % to less than 25%</u></td> <td><b>1</b></td> </tr> <tr> <td><b>(b)</b> <u>25% to 75%</u></td> <td><b>2</b></td> </tr> <tr> <td><b>(c)</b> <u>greater than 75%</u></td> <td><b>3</b></td> </tr> </table>	<b>(4)</b> <del>Vegetative paving systems</del> <u>Water permeable surfaces</u> are utilized to reduce the footprint of surface driveways, fire lanes, streets or parking areas.		<b>(a)</b> <u>10 % to less than 25%</u>	<b>1</b>	<b>(b)</b> <u>25% to 75%</u>	<b>2</b>	<b>(c)</b> <u>greater than 75%</u>	<b>3</b>	
<b>(4)</b> <del>Vegetative paving systems</del> <u>Water permeable surfaces</u> are utilized to reduce the footprint of surface driveways, fire lanes, streets or parking areas.										
<b>(a)</b> <u>10 % to less than 25%</u>	<b>1</b>									
<b>(b)</b> <u>25% to 75%</u>	<b>2</b>									
<b>(c)</b> <u>greater than 75%</u>	<b>3</b>									
<b>Reason:</b>	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these would promote vegetative paving systems for driveways, fire-lanes, streets, and parking areas. Any permeable shaded area though can provide similar benefits without the enormous costs in terms of water resources for irrigation of such areas. This is obviously an inappropriate measure for arid areas. SNWA’s change will allow builders in such areas to provide for the infiltration benefits without the potential resource challenges that would otherwise make this item unobtainable in some areas.									
<b>Substantiating Documents:</b>	No									
<b>Task Group Recommendation:</b>	Accept as Modified									
<b>Modification of Public Comment:</b>	<del>Vegetative paving systems</del> <u>Water permeable surfaces, including vegetative paving systems,</u> are utilized to reduce the footprint of surface driveways, fire lanes, streets or parking areas.									
<b>Task Group Reason:</b>	Adjusted for clarity									
<b>Task Group Vote:</b>	5-1-0									

<b>PC041 LogID 6095</b>	<b>405.4 Planning</b>	<b>Final Formal Action: TBD</b>
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<b>Submitter:</b>	Siying Zhang
<b>Public Comment:</b>	Suggest provide a 5% of lot size option or smaller projects. change it to 1/6 acre of 5% of lot, whichever is smaller.
<b>Reason:</b>	405.4 (3) 1/6 acre might not be realistic for small projects.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Proposal is unclear
<b>Task Group Vote:</b>	6-0-0

<b>PC042 LogID 6120</b>	<b>405.4 Zoning</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Siying Zhang	
<b>Public Comment:</b>	<del>1/6 acre</del> 1/6 acre of 5% of lot, whichever is smaller.	
<b>Reason:</b>	405.4 (3) 1/6 acre might not be realistic for small projects.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Proposal is unclear	
<b>Task Group Vote:</b>	6-0-0	

<b>PC043 LogID 6039</b>	<b>405.4 Zoning</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	Provide common or public spaces of a minimum of 1/6 acre that are within ¼ mile walk to 80 percent of planned and existing units and entrances to non- residential buildings. <u>Both existing and newly constructed squares, parks, paseos, plazas, and similar uses qualify under this criterion.</u>	
<b>Reason:</b>	Clarify: NEW construction (of common or public space) only? What if a park already exists?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	6-0-0	

<b>PC044 LogID 6040</b>	<b>405.6 Multi-modal transportation</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	<p>(a) Create a <u>network grid</u> of sidewalks and paths that provide a minimum level of connectivity of at least 90 bikeway or pathway intersections per square mile.</p> <p>(b) Create a <u>network grid</u> of sidewalks and paths that provide a minimum level of connectivity of at least 140 bikeway or pathway intersections per square mile.</p>	
<b>Reason:</b>	This appears to be an unusual measure that encourages intersections? Suggest renaming “grid” to “network” – we don’t need to dictate a geometry.	
<b>Substantiating Documents:</b>	No	

<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	6-0-0

<b>PC045 LogID 6041</b>	<b>405.6 Multi-modal transportation</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	Dedicated bicycle parking and racks are indicated on the site plan and constructed for, <u>buildings serving a residential use</u> <del>multi-family buildings</del> , and/or each developed common area.	
<b>Reason:</b>	Is it implied that a mixed-use building is also a multi-family building? If not, then reject the change. Change "multi-family buildings" to "buildings serving a residential use"	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	TG 2 – Disapprove TG 6 – Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	TG 2 – Change could apply to single family homes as opposed to what was intended. TG 6 – Task group believes the provision is clear and accurate as written.	
<b>Task Group Vote:</b>	TG 2 – 6-0-0 TG 6 – 8-0-0	

<b>PC046 LogID 6061</b>	<b>405.6 Multi-modal transportation</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Paul Gay	
<b>Public Comment:</b>		
<b>Reason:</b>	405.6.3a)b) add "and /or " ie ...at least 140 bikeway AND / or pathway.....	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	A system of walkways, bikeways, street crossings, <del>and</del> <u>or</u> pathways designed to promote connectivity to existing and planned community amenities are provided.	
<b>Task Group Reason:</b>	Additional clarity	
<b>Task Group Vote:</b>	6-0-0	

<b>PC047 LogID 6062</b>	<b>405.6 Multi-modal transportation</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Paul Gay	
<b>Public Comment:</b>		
<b>Reason:</b>	when will 405.6 (4) points be determined? suggest a= 2pts b= 4pts c = 6 pts	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Already been incorporated	
<b>Task Group Vote:</b>	6-0-0	

<b>PC048 LogID 6043</b>	<b>405.6 Multi-modal transportation</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	



<b>Public Comment:</b>	<p>(4) Dedicated bicycle parking and racks are indicated on the site plan and constructed for, multi-family buildings, and/or each developed common area.</p> <p>(a) Minimum of 1 bicycle parking space per 3 <del>residential units</del> <u>bedrooms</u></p> <p>(b) Minimum of 1 bicycle parking space per 2 <del>residential units</del> <u>bedrooms</u></p> <p>(c) Minimum of 1 bicycle parking space per 1 <del>residential units</del> <u>bedrooms</u></p>
<b>Reason:</b>	Suggest revising this metric to relate to quantity of bedrooms, not units. These could be 4 or 5-bedroom "units"
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	TG 2 – Disapprove TG 6 – Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	TG 2 – Substantial increase difficult to achieve TG 6 – The task group believes the existing metrics are more appropriate and practical for multifamily buildings.
<b>Task Group Vote:</b>	TG 2 – 6-0-0 TG 6 – 8-0-0

<b>PC049 LogID 6065</b>	<b>405.6 Multi-modal transportation</b>	<b>Final Formal Action: TBD</b>	
<b>Submitter:</b>	Don Whyte		
<b>Public Comment:</b>	<p>(4) Dedicated bicycle parking and racks are indicated on the site plan and <u>a minimum of six spaces</u> are constructed for, <del>multi-family buildings, and/or</del> each developed common area.</p> <p>(a) <del>Minimum of 1 bicycle parking space per 3 residential units.</del></p> <p>(b) <del>Minimum of 1 bicycle parking space per 2 residential units.</del></p> <p>(c) <del>Minimum of 1 bicycle parking space per 1 residential unit.</del></p>		<p><u>6</u></p> <p>2</p> <p>4</p> <p>6</p>
<b>Reason:</b>	Task Group 2 would like to change the language below to ensure that an applicant is not doubling up on points in chapters four and five for bicycle parking.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	TG 2 – Accept as Modified TG 6 – Disapprove		
<b>Modification of Public Comment:</b>	TG 2 – Dedicated bicycle parking and racks are indicated on the site plan and <u>a minimum of six spaces</u> are constructed for, multi-family buildings, and/or each developed common area. <u>One point shall be awarded for each 6 spaces up to a maximum of 6 points.</u>		
<b>Task Group Reason:</b>	TG 2 – Upon further discussion TG2 decided that the language above is clearer. TG 6 – Chapter 4 is a free-standing certification section and does not allow for or impact the points awarded in Chapter 5.		
<b>Task Group Vote:</b>	TG 2 – 6-0-0 TG 6 – 8-0-0		

<b>PC050 LogID 6086</b>	<b>405.8 Mixed-use development</b>	<b>Final Formal Action: TBD</b>	
<b>Submitter:</b>	Chuck Arnold		
<b>Public Comment:</b>	80% of the units should be within ½ mile walk of 5 non-residential <del>uses</del> <u>community resources</u> and where a system of walkways, bikeways, street crossings and pathways is designed to promote connectivity to those <del>uses</del> <u>resources</u> .		

<b>Reason:</b>	Clarification of the 5 non-residential uses.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Use is a commonly understood term in codes and plans.
<b>Task Group Vote:</b>	6-0-0

<b>PC051 LogID 6063</b>	<b>405.8 Mixed-use development</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Paul Gay	
<b>Public Comment:</b>		
<b>Reason:</b>	where is the 1/2 mile measured from? any main entrance ?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Language is clear	
<b>Task Group Vote:</b>	6-0-0	

<b>PC052 LogID 6042</b>	<b>405.8 Mixed-use development</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	<b>405.8 Mixed-use development.</b> (1) Mixed-use development is incorporated, or (2) for single-use sites 20 acres or less in size, 80% of the units should be within ½ mile walk of 5 commercial (non-residential) uses and where a system of walkways, bikeways, street crossings and pathways is designed to promote connectivity to those uses.	
<b>Reason:</b>	To clarify:	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Do not all have to be commercial, can be institutional/civic.	
<b>Task Group Vote:</b>	6-0-0	

<b>PC053 LogID 6044</b>	<b>405.9 Open space</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	<p><del>405.9 Open space.</del> A portion of the gross area of the community is set aside as open space.</p> <p>(Points awarded for every 10 percent of the community set aside</p>	<b>5</b>
<b>Reason:</b>	Duplicates the provisions in 405.4.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	Change point to 1 for clarity	
<b>Task Group Reason:</b>	Do not believe this is duplicative	

<b>Task Group Vote:</b>	6-0-0
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<b>PC054 LogID 6207</b>	<b>Chapter 4 Points</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	TG 2	
<b>Public Comment:</b>	All proposed updates to the point assignments for Chapter 4 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
<b>Reason:</b>	Based on Task Group 2 review of the point assignments for Chapter 4 in accordance with the established process.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	6-0-0	

## Chapter 5: Lot Design, Preparation, and Development

PC055 LogID 6045	501.1 Lot (Lot selection)	Final Formal Action: TBD	
Submitter:	David S. Collins, FAIA		
Public Comment:	An infill lot is selected that is a greyfield. <del>10</del> <u>12</u>		
Reason:	Why is the weight of item 2 the same as one?		
Substantiating Documents:	No		
Task Group Recommendation:	Accept as Modified		
Modification of Public Comment:	An infill lot is selected that is a greyfield. 10		
Task Group Reason:	Word infill was duplicative		
Task Group Vote:	6-0-0		

PC056 LogID 6066	501.2 Multi-modal transportation	Final Formal Action: TBD							
Submitter:	Don Whyte								
Public Comment:	<p><b>(6)</b> Dedicated bicycle parking and racks are indicated on the site plan and constructed for mixed-use <u>and</u>, multi-family buildings, <del>and/or common areas:</del></p> <table border="1"> <tbody> <tr> <td><b>(a)</b> Minimum of 1 bicycle parking space per 3 residential units</td> <td><b>2</b></td> </tr> <tr> <td><b>(b)</b> Minimum of 1 bicycle parking space per 2 residential units</td> <td><b>4</b></td> </tr> <tr> <td><b>(c)</b> Minimum of 1 bicycle parking space per 1 residential unit.</td> <td><b>6</b></td> </tr> </tbody> </table>	<b>(a)</b> Minimum of 1 bicycle parking space per 3 residential units	<b>2</b>	<b>(b)</b> Minimum of 1 bicycle parking space per 2 residential units	<b>4</b>	<b>(c)</b> Minimum of 1 bicycle parking space per 1 residential unit.	<b>6</b>		
<b>(a)</b> Minimum of 1 bicycle parking space per 3 residential units	<b>2</b>								
<b>(b)</b> Minimum of 1 bicycle parking space per 2 residential units	<b>4</b>								
<b>(c)</b> Minimum of 1 bicycle parking space per 1 residential unit.	<b>6</b>								
Reason:	Task Group 2 would like to change the language below to ensure that an applicant is not doubling up on points in chapters four and five for bicycle parking.								
Substantiating Documents:	No								
Task Group Recommendation:	TG 2 – Accept TG 6 – Disapprove								
Modification of Public Comment:									
Task Group Reason:	TG 6 – Chapter 4 is a free-standing certification section and does not allow for or impact the points awarded in Chapter 5.								
Task Group Vote:	TG 2 – 6-0-0 TG 6 – 8-0-0								

PC057 LogID 6082	501.2 Multi-modal transportation	Final Formal Action: TBD	
Submitter:	Chuck Arnold		
Public Comment:	No more than two each of the following use category can be counted toward the total: Recreation, Retail, Civic, and <u>other</u> Services.		
Reason:	Revision of the new wording for clarification.		
Substantiating Documents:	No		
Task Group Recommendation:	Disapprove		
Modification of Public Comment:			
Task Group Reason:	Word “other” is inappropriate in this circumstance. Services is a use category.		
Task Group Vote:	6-0-0		

PC058 LogID 6137	501.2 Multi-modal transportation	Final Formal Action: TBD
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	A lot is selected within one-half mile (805 m) of six or more community resources (e.g., recreational facilities (such as pools, tennis courts, basketball courts), parks, grocery store, post office, place of worship, community center, daycare center, bank, school, restaurant, medical/dental office, Laundromat/dry cleaner)). No more than two each of the following use category can be counted toward the total: Recreation, Retail, Civic, and Services. <u>Examples of resources in each category are:</u> <u>Recreation: recreational facilities (such as pools, tennis courts, basketball courts), parks.</u> <u>Retail: grocery store, restaurant, retail store.</u> <u>Civic: post office, place of worship, community center.</u> <u>Services: bank, daycare center, school, medical/dental office, Laundromat/dry cleaners.</u>	
<b>Reason:</b>	501.2 (4) is confusing as to what the community resource categories are. Are their 4 categories (Recreation, Retail, Civic, and Services) OR 12 categories (recreational facilities, parks, grocery store, post office, place of worship, community center, daycare center, bank, school, restaurant, medical/dental office, Laundromat/dry cleaner) in which to count the 6 required.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	6-0-0	

PC059 LogID 6046	503.2 Slope disturbance	Final Formal Action: TBD																					
<b>Submitter:</b>	David S. Collins, FAIA																						
<b>Public Comment:</b>	<table border="1"> <tr> <td colspan="2"><b>503.2 Slope disturbance.</b> Slope disturbance is minimized by one or more of the following:</td> <td>-</td> </tr> <tr> <td><b>(2)</b></td> <td>Hydrological/soil stability study is completed and used to guide the design of all buildings on the site.</td> <td><b>45</b></td> </tr> <tr> <td><b>(3)</b></td> <td>All or a percentage of roads are aligned with natural topography to reduce cut and fill.</td> <td>-</td> </tr> <tr> <td><b>(a)</b></td> <td>10 percent to 25 percent</td> <td><b>31</b></td> </tr> <tr> <td><b>(b)</b></td> <td>25 percent to 75 percent</td> <td><b>4</b></td> </tr> <tr> <td><b>(c)</b></td> <td>greater than 75 percent</td> <td><b>6</b></td> </tr> <tr> <td><b>(4)</b></td> <td>Long-term erosion effects are reduced by the use of clustering, terracing, retaining walls, landscaping, and restabilization techniques.</td> <td><b>56</b></td> </tr> </table>	<b>503.2 Slope disturbance.</b> Slope disturbance is minimized by one or more of the following:		-	<b>(2)</b>	Hydrological/soil stability study is completed and used to guide the design of all buildings on the site.	<b>45</b>	<b>(3)</b>	All or a percentage of roads are aligned with natural topography to reduce cut and fill.	-	<b>(a)</b>	10 percent to 25 percent	<b>31</b>	<b>(b)</b>	25 percent to 75 percent	<b>4</b>	<b>(c)</b>	greater than 75 percent	<b>6</b>	<b>(4)</b>	Long-term erosion effects are reduced by the use of clustering, terracing, retaining walls, landscaping, and restabilization techniques.	<b>56</b>	
<b>503.2 Slope disturbance.</b> Slope disturbance is minimized by one or more of the following:		-																					
<b>(2)</b>	Hydrological/soil stability study is completed and used to guide the design of all buildings on the site.	<b>45</b>																					
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<b>(c)</b>	greater than 75 percent	<b>6</b>																					
<b>(4)</b>	Long-term erosion effects are reduced by the use of clustering, terracing, retaining walls, landscaping, and restabilization techniques.	<b>56</b>																					
<b>Reason:</b>	How is the minimizing disturbance measures? Does this duplicate #4, which is better worded?																						
<b>Substantiating Documents:</b>	No																						
<b>Task Group Recommendation:</b>	Accept																						
<b>Modification of Public Comment:</b>																							
<b>Task Group Reason:</b>																							
<b>Task Group Vote:</b>	6-0-0																						

PC060 LogID 6012	<b>503.4 Stormwater management</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Greg Johnson	
<b>Public Comment:</b>	(3) Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration such as, but not limited to, vegetated swales, bio-retention cells, vegetated tree boxes and planters, green roofs, lawns, and permeable pavements are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events:	
<b>Reason:</b>	Grassed areas provide considerable infiltration capacity on low-sloped, level, and sunken sites. Even on higher sloped sites grass provides sheet flow control, slowing run-off and allowing it to infiltrate.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	(3) Low Impact Development/Green infrastructure stormwater management practices to promote infiltration and evapotranspiration such as, but not limited to, vegetated swales, bio-retention cells, vegetated tree boxes and planters, green roofs, lawns, and permeable pavements are used to manage rainfall on the lot and prevent the off-lot discharge of runoff from all storms up to and including the volume of following storm events:	
<b>Task Group Reason:</b>	Defined in definitions chapter	
<b>Task Group Vote:</b>	6-0-0	

PC061 LogID 6014	<b>503.5 Landscape plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Greg Johnson	
<b>Public Comment:</b>	(2) <del>Turf grass species, other vegetation, and trees</del> <u>Non-invasive vegetation</u> that are <u>is</u> native or regionally appropriate for local growing conditions are <u>is</u> selected <del>giving consideration to biodiversity and water use and specified on the lot plan.</del> <u>Non-invasive vegetation is selected.</u>	
<b>Reason:</b>	Section 503.5 says that a landscape plan is developed, in part, to limit water use. Nothing is gained in item 2 by requiring further consideration of water use. Water use should be stricken from item 2. Item 2's requirements for specification on the landscape plan is similarly duplicative. The charging section of 503.5 addresses it -the whole section is about the plan. Requiring additional plan specificity is poor formatting of the standard. Bio-diversity in the landscape is already addressed by Sec. 503.6 which awards habitat supporting initiatives (automatically biodiverse) additional points. Finally, turfgrass and trees are vegetation and do not need to be singled out in this item of the section. The proposed change to non-invasive vegetation is editorial.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	(3) <del>Turf grass species, other vegetation, and trees</del> <u>Non-invasive vegetation</u> that are <u>is</u> native or regionally appropriate for local growing conditions are <u>is</u> selected <del>giving consideration to</del> <u>is selected to promote biodiversity.</u> <del>and water use and specified on the lot plan is selected.</del> <u>Non-invasive vegetation is selected.</u>	
<b>Task Group Reason:</b>	Simplified language	
<b>Task Group Vote:</b>	6-0-0	

PC062 LogID 6047	<b>503.5 Landscape plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	<p><b>503.5 Landscape plan.</b> A plan for the lot is developed to limit water and energy use while preserving or enhancing the natural environment.</p> <p><b>(Where "front" only or "rear" only plan is implemented, only half of the points (rounding down to a whole number) are awarded for Items (1)-(6)</b></p>	

	(1) A plan is formulated <u>and implemented that to protects, restores, or enhances</u> natural vegetation on the lot.	6	
<b>Reason:</b>	It isn't enough to simply develop such a plan it has to do something.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Accept		
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			
<b>Task Group Vote:</b>	6-0-0		

<b>PC063 LogID 6125</b>	<b>503.5 Landscape plan</b>	<b>Final Formal Action: TBD</b>	
<b>Submitter:</b>	Blaine Wilkins		
<b>Public Comment:</b>	<del>(3) Turf grass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height.</del>		
<b>Reason:</b>	The third item seems incompatible with this document. This is a design standard, but this proposed credit requires long-term care and maintenance for it to have any environmental benefit. I know of few homeowners who would maintain such a lawn as is described here. In my experience, a homeowner will apply -- or ask a landscaping service to apply -- weed killer to short flowering plants in their lawn. And how many homeowners who invest in a brand new home will let their lawns grow to 6" before mowing it? This is an unrealistic expectation. This practice may be workable if a homeowner elects to do it himself, but I do not know many who would do so. It certainly will have little beneficial impact if it is installed by a developer or builder unless it is designed to a particular homeowners's specifications. The points are easy, and the benefit is nil. Delete it.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Disapprove		
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>	To be consistent with prior action		
<b>Task Group Vote:</b>	6-0-0		

<b>PC064 LogID 6123</b>	<b>503.5 Landscape plan</b>	<b>Final Formal Action: TBD</b>	
<b>Submitter:</b>	Anthony Floyd		
<b>Public Comment:</b>	(1) <del>6</del> <u>Mandatory</u> (2) <del>7</del> <u>Mandatory</u>		
<b>Reason:</b>	Items 1 and 2 should be mandatory for all green building projects. All native plants and regionally appropriate plants should be conserved, maintained and reused to the greatest extent possible which is a reasonable expectation for all landscape designs (whether part of a green building project or not). Selecting native or regionally appropriate plants for local growing conditions is a fundamental landscape design practice and should always be a prerequisite for sites associated with green buildings.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Disapprove		
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>	Does not accommodate urban agriculture. Unreasonable expectation.		
<b>Task Group Vote:</b>	5-0-0		

PC065 LogID 6127	503.5 Landscape plan	Final Formal Action: TBD
Submitter:	Anthony Floyd	
Public Comment:	(10) <del>An invasive plant removal and containment Developer has a plan for removal or containment of invasive plants from the</del> shall be prepared where invasive plants are located on <del>disturbed</del> areas of the site that will be disturbed during construction.	
	<del>3</del> <u>Mandatory</u>	
Reason:	Item 10 should be mandatory for disturbed portions of sites associated with green building projects. Existing invasive plants should be removed or contained based on a plan prepared by a qualified landscape professional. The removal of invasive plants and selection of native or regionally appropriate plants for local conditions is a fundamental practice of good landscape design and should be a prerequisite for all green building sites.	
Substantiating Documents:	No	
Task Group Recommendation:	Disapprove	
Modification of Public Comment:		
Task Group Reason:	The change in text is not substantive. Do not agree with the point change. Using points as an incentive will better encourage the intended result.	
Task Group Vote:	4-1-0	

PC066 LogID 6128	503.5 Landscape plan	Final Formal Action: TBD
Submitter:	Anthony Floyd	
Public Comment:	(11) <del>An invasive plant removal and containment Developer has a plan for removal or containment of invasive plants on the</del> is prepared for invasive plants located on <del>undisturbed</del> areas of the site that will be undisturbed during construction.	
	<del>6</del> <u>3</u>	
Reason:	The language of item 11 is revised for consistency with item 10 proposed language revision except that item 11 pertains to undisturbed areas. 'Developer' is not mentioned in any of the other landscape checklist items, so why should 'developer' be mentioned in items 10 and 11. Finally, the points are reduced from 6 to 3 since item 10 is proposed to be mandatory.	
Substantiating Documents:	No	
Task Group Recommendation:	Disapprove	
Modification of Public Comment:		
Task Group Reason:	The change in text is not substantive. Do not agree with the point change. Using points as an incentive will better encourage the intended result.	
Task Group Vote:	4-1-0	

PC067 LogID 6186	503.5 Landscape plan	Final Formal Action: TBD
Submitter:	Kent Sovocool	
Public Comment:	<p>(2) Turf grass species, other vegetation, and trees that are native or regionally appropriate for local growing conditions are selected <u>giving consideration to biodiversity and water use</u> and specified on the lot plan. <u>Non-invasive vegetation is selected.</u></p> <p>The EPA WaterSense Water Budget Tool may be <u>used when determining the maximum percentage of turf areas.</u> For landscapeable areas, the <u>percentage of all turf areas is:</u> <del>The percentage of all turf areas are limited as part of the landscaping-</del></p> <p><u>(a) 0 percent.</u></p>	



	<p><u>(b) Greater than 0 percent to less than 20 percent</u></p> <p><u>(c) 20 percent to less than 40 percent</u></p> <p><u>(d) 40 percent to 60 percent</u></p> <p><del>(4) — EPA WaterSense Water Budget Tool is used to determine the maximum percentage of turf areas.</del></p>	
<p><b>Reason:</b></p>	<p>There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). The gravest impacts are to section 403.6 (4). This is where OPEI has lobbied for the diminishment of turf limitations as an option for reducing outdoor water demands. In the early stages of drought in 2003, my agency worked closely with a number of stakeholders including the Southern Nevada Home Builders Association (SNHBA) to implement a policy that limited the use of turfgrass for ornamental purposes. Why turfgrass? Our research has shown that lawns receive four times as much water as other water-efficient landscapes that may include trees, shrubs, flowers, vines and other adapted plants. Research in a variety of geographic settings has demonstrated that significant savings are realized where plantings other than turfgrass are used. Locally, these policies not only mitigated water demand, they quelled calls for a moratorium on growth and new construction. These policies have had no impact on quality of life and a positive impact on economic productivity. Both builders and homebuyers are free to plant some turfgrass and to select from a palette of more than 500 other plants for their landscapes. These landscape provisions, more than any other initiative, allowed us to reduce our use by almost 29 billion gallons between 2002 and 2012 while allowing homebuilders to create housing for nearly 500,000 new residents that have located in Southern Nevada since the policy went into effect. Appropriately used, turfgrass can provide benefits, but at a cost. Numerous studies have shown that better adapted plants can provide most or all of the functions of turfgrass with lower demand for water, fertilizer, fuel and maintenance. In many utilities, the benefits of turfgrass carbon sequestration are overwhelmed by the embedded electric energy in just a few inches of irrigation water. The NGBS has thus far provided for the earning of points with landscape plans that have turf limitations. These have been optional and allowed for regional diversification. They have worked successfully in conjunction with turf limits to provide for appropriate reward in water-scarce regions such as ours. While SNWA certainly is supportive of the WaterSense program and our proposed change continues to highlight it, in regions where there is already policy to limit the use of turfgrass, using the NGBS would necessitate a special set of calculations and assessments at each home being built, yet not change the outcome due to the regulatory environment. This additional difficulty may be a disincentive that results in builders shunning the NGBS in regions where water-scarcity has become a driving force. Our included background material demonstrates that these may occur at local municipal code levels as in southern Nevada well as state levels (California). The NGBS should allow regional flexibility by allowing builders to use such already requisite approaches while highlighting the WaterSense Water Budget Tool. It should appropriately incentivize and reward builders for doing so. And just doing the calculation is insufficient. This was obviously not the intent as per the original language. We want to assure that the work is actually done, something that may have unknowingly occurred in the standard development process. Our proposal addresses both these deficiencies. Finally, a number of point modifications have occurred that significantly reduce the emphasis on water efficiency in landscape design that SNWA's proposal counters. Good landscape design is crucial to water efficiency and it does involve real on the ground enhancements. It should rank highly in points-based systems thus the reallocation of points to 403.6 (4).</p>	
<p><b>Substantiating Documents:</b></p>	<p>No</p>	
<p><b>Task Group Recommendation:</b></p>	<p>Accept as Modified</p>	
<p><b>Modification of Public Comment:</b></p>	<p><u>The EPA WaterSense Water Budget Tool may be used when implementing the maximum percentage of turf areas; or for landscaped vegetated areas, the percentage of all turf areas is:</u> <del>The percentage of all turf areas are limited as part of the landscaping.</del></p>	<p><u>7</u></p>

	<u>(a)</u> 0 percent.	<u>105</u>
	<u>(b)</u> Greater than 0 percent to less than 20 percent	<u>84</u>
	<u>(c)</u> 20 percent to less than 40 percent	<u>63</u>
	<u>(d)</u> 40 percent to 60 percent	<u>42</u>
<b>Task Group Reason:</b>	New language allows different climates around the country to receive points.	
<b>Task Group Vote:</b>	5-1-0	

<b>PC068 LogID 6187</b>	<b>503.5 Landscape plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Kent Sovocool	
<b>Public Comment:</b>	<del>(3) Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height. To improve pollinator habitat, at least 10% of planted areas are composed of non-invasive flowering and nectar producing plant species.</del>	
<b>Reason:</b>	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these is the introduction of a new concept which the proponent informally refers to as the “bee lawn” which draws upon research that has found that while a lawn composed of turfgrass provides only detrimental impacts to bee colonies, a lawn infested with flowering herbaceous plants can provide more benefits (though not at the levels of native vegetation). To this end OPEI suggests rewarding intentionally enhancing lawns in this way. But that is misleading as, in order to get the points, the major negative, putting in a monoculture composed of turfgrass, has to also happen. Again, the lawn itself is only detrimental to bees. Furthermore, a careful review shows only certain species can be facilitated by the limited plantings that can be maintained in a lawn, especially given most people mow their lawns to 4 inches or less. Research by the University of Kentucky has demonstrated that diversity of bee species declines precipitously where turfgrass is present and indeed there are even programs devoted to converting turfgrass areas to pollinator habitat. It is counterintuitive and highly strategic on OPEI’s part to attempt to promote a “bee lawn” as part of a sustainability initiative and it would be terrible to see the committee endorse the concept even as modified in prior deliberation. What we need are more flowering and nectar producing plants. SNWA’s proposal presents a way to do this with alternative plantings in no greater amounts that OPEI’s proposal but that is scientifically justifiable.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	<del>(3) Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height. To improve pollinator habitat, at least 10% of turf grass or other planted areas are composed of non-invasive flowering and nectar producing plant species. Plants in turf areas should be selected that flower at less than 4 inches in height.</del>	
<b>Task Group Reason:</b>	Decreased height to accommodate for maintenance errors by future residents.	
<b>Task Group Vote:</b>	5-0-0	

<b>PC069 LogID 6048</b>	<b>503.6 Wildlife habitat</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	<u>(11) Developer has implements a plan for removal or containment of invasive plants on the undisturbed areas of the site.</u>	
<b>Reason:</b>	Having a plan doesn't do anything.	
<b>Substantiating Documents:</b>	No	

<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	5-0-0

<b>PC070 LogID 6049</b>	<b>503.7 Environmentally sensitive areas</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	(2) On lots with environmentally sensitive areas, mitigation and/or restoration is conducted to preserve ecosystem functions lost through development and construction activities.	
<b>Reason:</b>	What is the method of measurement for achieving this/	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	No recommendation or solution	
<b>Task Group Vote:</b>	5-0-0	

<b>PC071 LogID 6148</b>	<b>503.8 Demolition of existing building</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	(One additional point awarded for every 10percent of <u>nonhazardous</u> demolition waste recycled and/or salvaged beyond50 percent).	
<b>Reason:</b>	The first paragraph specifically states that the demolition waste should be nonhazardous. For clarity reasons, the “nonhazardous” condition should be included in the parenthetical note about additional points. It also appears that no point values have been assigned to this section. Solution: Include the word “nonhazardous” in the parenthetical note about additional points. Include the intended number of available points for this section.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	5-0-0	

<b>PC072 LogID 6188</b>	<b>505.1 Driveways and parking areas</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Kent Sovocool	
<b>Public Comment:</b>	<p>Vegetative paving systems Water permeable surfaces are utilized to reduce the footprint of surface driveways, fire lanes, streets or parking areas.</p> <p>(a) 10 % to less than 25%</p> <p>(b) 25% to 75%</p> <p>(c) greater than 75%</p>	
<b>Reason:</b>	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these would promote vegetative paving systems for driveways, fire-lanes, streets, and parking areas. Any permeable	

	shaded area though can provide similar benefits without the enormous costs in terms of water resources for irrigation of such areas. This is obviously an inappropriate measure for arid areas. SNWA's change will allow builders in such areas to provide for the infiltration benefits without the potential resource challenges that would otherwise make this item unobtainable.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	<del>Vegetative paving systems</del> Water permeable surfaces, including vegetative paving systems, are utilized to reduce the footprint of surface driveways, fire lanes, streets or parking areas.
<b>Task Group Reason:</b>	Adjusted for clarity
<b>Task Group Vote:</b>	5-0-0

PC073 LogID 6189	505.2 Heat island mitigation	Final Formal Action: TBD
<b>Submitter:</b>	Kent Sovocool	
<b>Public Comment:</b>	<p>Roofs: Not less than 75 percent of the exposed surface of the roof is <del>vegetated. Invasive plant species are not permitted.</del> is in accordance with one or a combination of the following methods.</p> <p><b>(a)</b> Minimum initial SRI of 78 for a low-sloped roof (a slope less than or equal to 2:12) and a minimum initial SRI of 29 for a steep-sloped roof (a slope of more than 2:12). The SRI is calculated in accordance with ASTM E1980. Roof products are certified and labeled.</p> <hr/> <p><b>(b)</b> Roof is vegetated using technology capable of withstanding the climate conditions of the jurisdiction and the microclimate conditions of the building lot. Invasive plant species are not permitted.</p>	
<b>Reason:</b>	Roof Heat island mitigation by the use of vegetation is not appropriate nor is it generally practical in the arid southwest. The irrigation requirements are enormous and the heat on roof materials is so intense that the few experiments with this have commonly failed over the long-term. It would be better to bring back the non-vegetative option in such circumstances. We recommend rejecting the modification to only allow vegetative roofs.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	Roofs: Not less than 75 percent of the exposed surface of the roof is vegetated <u>using technology capable of withstanding the climate conditions of the jurisdiction and the microclimate conditions of the building lot. Invasive plant species are not permitted.</u>	
<b>Task Group Reason:</b>	(A) addressed in Section 602.2 Roof Surfaces	
<b>Task Group Vote:</b>	5-0-0	

PC074 LogID 6050	505.2 Heat island mitigation	Final Formal Action: TBD
<b>Submitter:</b>	David S. Collins, FAIA	
<b>Public Comment:</b>	<u>Minimum initial SRI of 78 for low-sloped roof (a slope less than or equal to 2:12) and a minimum initial SRI of 29 for a steep-sloped roof (a slope of more than 2:12). The SRI is calculated in accordance with ASTM E1980. Roof products are certified and labeled.</u>	
<b>Reason:</b>	Why is the cool roof criteria eliminated?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Addressed in Section 602.2 Roof Surfaces	
<b>Task Group Vote:</b>	5-0-0	

PC075 LogID 6135	505.3 Density	Final Formal Action: TBD
Submitter:	Susan Gitlin	
Public Comment:		
Reason:	EPA agrees that the greater levels of density should be rewarded with greater points. However, we are concerned about the very high number of points now being proposed for the new density levels. Whereas previously 11 points were rewarded for the highest density levels, 17 points are now available. Compact development (i.e., density) is beneficial in that it minimizes the need to develop greenfields and prime agricultural land. However, its ability to lead to other types of environmental benefits, particularly the reduction of greenhouse gas emissions due to transportation, are highly dependent on other factors in its neighborhood, including whether public transportation is available nearby, whether there are shops and services for people to walk to, and other factors. The number of points currently proposed misrepresents the environmental benefits that density provides in and of itself. To be sure, it should be well-rewarded, but not with so many points that the builder has reduced incentive to implement those building practices that combined with density create sustainability “synergies.” We propose that the points be reconsidered, leaving 11 points as the maximum possible, and be allocated from lowest density to highest density as follows: 5, 6, 7, 9, 11 . Also, we would like to point out that there is a similar provision in 405.7 for which no changes have been proposed. We recommend that 405.7 be revised to be consistent with 505.3.	
Substantiating Documents:	No	
Task Group Recommendation:	Disapprove	
Modification of Public Comment:		
Task Group Reason:	Dealt with the comment already.	
Task Group Vote:	5-0-0	

PC076 LogID 6078	505.6 Multi-unit plug-in vehicle charging	Final Formal Action: TBD
Submitter:	Chuck Arnold	
Public Comment:	Plug-in electric vehicle charging capability is provided for <u>at least</u> 1 percent of parking stalls.	
Reason:	Clarification on the % of charging capability.	
Substantiating Documents:	No	
Task Group Recommendation:	Accept	
Modification of Public Comment:		
Task Group Reason:		
Task Group Vote:	5-0-0	

PC077 LogID 6208	Chapter 5 Points	Final Formal Action: TBD
Submitter:	Task Group 2	
Public Comment:	All proposed updates to the point assignments for Chapter 5 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
Reason:	Based on Task Group 2 review of the point assignments for Chapter 5 in accordance with the established process.	
Substantiating Documents:	No	
Task Group Recommendation:	Accept	
Modification of Public Comment:		
Task Group Reason:		

<b>Task Group Vote:</b>	5-0-0
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## Chapter 6: Resource Efficiency

<b>PC078</b>	<b>LogID 6064</b>	<b>601.7 Prefinished materials</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Paul Gay		
<b>Public Comment:</b>			
<b>Reason:</b>	add back "pre finished hard flooring", this will encourage their use		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Disapprove		
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>	Flooring is listed already in the new "d" and "e" items.		
<b>Task Group Vote:</b>	6-0-0		

<b>PC079</b>	<b>LogID 6142</b>	<b>601.7 Prefinished materials</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary		
<b>Public Comment:</b>	<p><b>601.7 Prefinished materials.</b></p> <p>(e) exterior wall coverings or systems, floor system, and/or ceiling systems not requiring paint or stain or other type of finishing application</p>		
<b>Reason:</b>	What is an exterior floor system or an exterior ceiling system?		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Disapprove		
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>	Examples of exterior floor system or exterior ceiling systems include porch and enclosed rooms outside the thermal envelope. See IRC for examples. This explanation should be covered in NGBS Commentary.		
<b>Task Group Vote:</b>	6-0-0		

<b>PC080</b>	<b>LogID 6206</b>	<b>602.1.5 Termite barrier</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Chuck Arnold		
<b>Public Comment:</b>	<p><b>In geographic areas that have a moderate to heavy or very heavy infestation potential <u>in accordance with figure 6(3), a continuous physical barrier used with a low toxicity bait and kill termite treatment plan is selected and implemented.</u></b></p>		
<b>Reason:</b>	The charging language states that you must use a continuous physical foundation termite barrier but option 3 contradicts that by stating that you can use a low toxicity bait and kill termite treatment plan.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Accept as Modified		
<b>Modification of Public Comment:</b>	<p><i>Edit to charging language:</i></p> <p><b>602.1.5 Termite barrier.</b> Continuous physical foundation termite barrier provided in accordance as follows:</p> <p><i>Edit to Item (3):</i></p> <p><b><u>In geographic areas that have a moderate to heavy or very heavy infestation potential in accordance with figure 6(3), a continuous physical barrier used with a low toxicity bait and kill termite treatment plan is selected and implemented.</u></b></p>		
<b>Task Group Reason:</b>	A low toxicity bait and kill treatment plan was deemed a continuous barrier for the purposes of this practice. Agreed that "physical" may not fit for Item (3); term was removed from charging language.		

<b>Task Group Vote:</b>	6-0-0
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<b>PC081 LogID 6068</b>	<b>602.1.7.3 Moisture control based on hygrothermal simulation or field study analysis</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Paul Gay	
<b>Public Comment:</b>		
<b>Reason:</b>	clarification needed. does the term " building envelope assembly" include the exterior air/moisture barrier insulation, studs and interior air barrier? or are we focused on just the exterior air/moisture barrier? is the information required easily available (eg on a web site) or will this incur additional costs?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Building envelope assembly is a widely-used term and does not warrant explanation within standard itself. Explanation within the NGBS Commentary may be useful.  Situations will vary whether or not additional costs are incurred (e.g., existing field study may be available).	
<b>Task Group Vote:</b>	6-0-0	

<b>PC082 LogID 6069</b>	<b>604.1 Recycled content</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Paul Gay	
<b>Public Comment:</b>		
<b>Reason:</b>	award points "per 2" as originally written. this encourages the purchase of products that have recycled content	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	NGBS already encourages the purchase of recycled-content products.	
<b>Task Group Vote:</b>	6-0-0	

<b>PC083 LogID 6067</b>	<b>605.1 Construction waste management plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Chuck Arnold	
<b>Public Comment:</b>	<p><b>605.1 Construction waste management plan.</b> A construction waste management plan is developed, posted at the jobsite, and implemented diverting, through reuse, salvage or recycling, a minimum of 50 percent (by weight) of nonhazardous construction and demolition waste from disposal. For this practice, land clearing debris is not considered construction waste. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging. <u>Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations.</u></p> <p>For remodeling projects or demolition of an existing facility, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) by an EPA certified E-Waste recycling facility.</p>	



	<p><b>Exceptions:</b></p> <p><del>Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations.</del></p> <p><del>A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.</del></p>
<b>Reason:</b>	The inclusion of “exceptions” for this non-mandatory practice seems inappropriate. Item (1) should not be identified as an “exception”; it is simply clarifying text about how the practice is achieved. As the practice itself does not specifically mention material receipt documentation, the inclusion of exception (2) raises questions about implementation/verification of the practice. The pathway for a home/building not located within 50 miles of a recycling center to achieve points is unclear. I recommend allowing the Adopting Entities to determine verification method, such as material receipt documentation requirements, and the appropriate allowances for jobsites not located within 50 miles of a recycling center.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	<p>TG intentionally kept the land clearing waste text separate with the thought that provisions would be included on land-clearing waste in Chapter 4. We do not agree that exceptions are inappropriate for this type of practice. Moving Items (1) and (2) to the charging language would create redundancy with existing language on land cover.</p> <p>Exception (2) is valid since transportation to further recycling facilities is resource-demanding.</p>
<b>Task Group Vote:</b>	6-0-0

<b>PC084 LogID 6150</b>	<b>605.1 Construction waste management plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	<p><b>605.1 Construction waste management plan.</b> ...diverting, through <u>methods such as reuse, salvage, or recycling or manufacturer reclamation</u>, a minimum of 50 percent (by weight) of nonhazardous construction and demolition <del>waste materials</del> from disposal in landfills and combustion, <u>excluding energy and material recovery</u>. For this practice, land clearing debris is not considered construction waste. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging.</p> <p>For remodeling projects or demolition of an existing facility, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) by <del>an</del> <u>EPA third-party</u> certified E-Waste recycling facility.</p> <p><b>Exceptions:</b></p> <p><del>1) Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations.</del></p> <p>A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.</p>	
<b>Reason:</b>	The section is instructing stakeholders to divert construction and demolition materials from disposal. Commonly, such language would clarify that the materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. (note that we are referring to “combustion” rather than “incineration;” although frequently misunderstood, combustion is a broader activity that does include energy and material recovery, but incineration is done so as to treat or resize waste for the purpose of disposal and does not include energy or material recovery; because of the common	

	<p>misunderstanding, we do recommend acknowledging energy recovery, but including it under the broader, correct activity, i.e., combustion.) Further, the list of methods that count toward the diversion practice is very limited. Other types of diversion, such as through manufacturer reclamation, are feasible and often practiced. That said, even with the addition of manufacturer reclamation, the list of diversion methods would not be complete and should be presented as such. The C&amp;D debris that gets diverted is a resource (material) and not waste and should be referred to accordingly. It is unclear what is intended by an “EPA-certified” e-waste recycling facility; EPA does not “certify” e-waste recycling facilities. Currently, the Responsible Recycling Standard (R2) and the e-Stewards standard are the two available e-waste certification programs to which facilities may be certified. See: <a href="http://www.sustainableelectronics.org/">http://www.sustainableelectronics.org/</a> and <a href="http://e-stewards.org/">http://e-stewards.org/</a> Finally, if the intent of the “Exceptions” section is to indicate specific circumstances when the practice does not apply, or to acknowledge situations when it cannot be met by the person seeking the points, then it is unclear why the first item is listed. How is stating “Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations,” an Exception? (We would argue this is an exclusion from the calculation, not an exception to the practice.) The second item in the Exceptions, “A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite,” implies that a recycling facility not available within 50 miles would preclude the person from achieving the points available through the practice. Solution: Introduce that materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. Broaden the list of diversion methods indicating that the list is not all-inclusive. Refer to construction and demolition materials and not waste. Replace “EPA-certified” e-waste recycling facility with “third-party certified” e-waste recycling facility. Delete the first item listed under Exceptions.</p>
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	<i>Accept only the following modifications</i>
<b>Task Group Reason:</b>	<p><b>605.1 Construction waste management plan.</b> ...diverting, through <del>methods such as</del> reuse, salvage, or recycling <u>or manufacturer reclamation</u>, a minimum of 50 percent (by weight) of nonhazardous</p> <p>Manufacturer reclamation was missed and should be incorporated. Edited to remove vague language-- “methods such as.”</p> <p>Combustion language is unclear.</p> <p>We do not agree that the exception should be brought in.</p>
<b>Task Group Vote:</b>	5-0-1

<b>PC085 LogID 6070</b>	<b>606.2 Wood-based products</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Paul Gay	
<b>Public Comment:</b>		
<b>Reason:</b>	is the term "component" defined anywhere?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Major and minor components are defined in the Definitions section (Chapter 2). Consensus Committee should consider reorganizing the two definitions to be listed under “C” for component. Add a definition for “Component” and direct readers to “See Major Component” and “See Minor Component” definitions.	
<b>Task Group Vote:</b>	7-0-0	

PC086 LogID 6151	610.1 Life cycle assessment <span style="float: right;"><i>Final Formal Action: TBD</i></span>
Submitter:	Susan Gitlin
Public Comment:	<p><b>610.1.1 Whole-building life cycle assessment.</b> A whole-building LCA is performed in conformance with ASTM E-2921 using SO14044 compliant life cycle assessment and data compliant with ISO 14044 or other recognized standards.</p> <p>Execute LCA at the whole-building level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E-2921. The assessment criteria includes the following environmental impact categories:</p> <ul style="list-style-type: none"> <li>a. Primary energy use</li> <li>b. Global warming potential</li> <li>c. Acidification potential</li> <li>d. Eutrophication potential</li> <li>e. Ozone depletion potential</li> <li>f. Smog potential</li> <li>g. <u>Material Use</u></li> <li>h. <u>Waste</u></li> </ul> <p>Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using EPA NERC electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the Sub-Region in which the building is located.</p> <p>3. Execute full LCA, including use and end-of-life phases. <del>For the use phase, calculate through calculation of</del> operating energy impacts (c) – (f) using EPA NERC regional emissions factors [provide full reference to NERC document or provide factor tables]. <u>For the use phase, also include impacts associated with material replacements.</u></p>
Reason:	<p>Using less material and recovering more is crucial to our economic and environmental future. Whether less material is used and more recovered over the life cycle of the designed building should be evaluated against a reference building. To that end, material use and waste impact categories should be included in life-cycle assessments. In addition, the “full” life cycle assessment should include all life cycle phases, including use and end-of-life phases. While the NGBS-proposed language emphasizes that the assessment should include the use phase, it omits mentioning the end-of-life phase. Finally, the language for the use phase indicates that impacts related to energy use should be evaluated, but remains silent on the need to evaluate impacts associated with the replacement of materials. Solution: Add the material use and waste impact categories to the assessment criteria. Emphasize that the boundary of the assessment should include the end-of-life phase. Emphasize that the assessment of the use phase should include the analysis of impacts associated with the replacement of materials.</p>
Substantiating Documents:	No
Task Group Recommendation:	Disapprove
Modification of Public Comment:	
Task Group Reason:	<p>Adding new categories may add value but would require additional work to incorporate, as they are not already covered by ASTM-2921. No acceptable measuring system exists currently for waste and material use. Scope of material use is very broad when water and fuel is considered.</p> <p>Change in Item (3) does nothing to clarify energy impacts and overly complicates the text.</p> <p>“End-of-life” is not precise language and is covered by demolition requirements of cited standards.  “For the use phase” is not a precise term used by the existing standards for life cycle assessment.  “Material replacements” are covered in ASTM E-2921.</p>

<b>Task Group Vote:</b>	8-0-0
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<b>PC087 LogID 6162</b>	<b>610.1.1 Whole-building life cycle assessment</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Todd Jones	
<b>Public Comment:</b>	(b) <del>Global warming potential</del> <u>Direct and indirect greenhouse gas emissions</u>	
<b>Reason:</b>	(1)(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	The commenter's reason is for clarity but TG believes that the proposed language adds confusion. "Global Warming Potential" is the term currently used in rating systems and codes. Any LCA practitioner in compliance with ISO 14044 will consider direct and indirect greenhouse gas emissions as part of the global warming potential impact category. Outputs from many LCA software programs are aligned with Global Warming Potential. "Global Warming Potential" is broad term, not just focused on CO2.	
<b>Task Group Vote:</b>	8-0-0	

<b>PC088 LogID 6071</b>	<b>610.1.1 Whole-building life cycle assessment</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Paul Gay	
<b>Public Comment:</b>		
<b>Reason:</b>	raise the point threshold. 15 points for a whole building assessment doesn't seem to adequately award the work needed to meet the credit, especially if a product LCA is worth 10 points.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	TG feels that 15 points is adequate incentive for this potential tool. Assumption based on total points of product LCA may be incorrect based. Commenter did not offer an alternative point allotment.	
<b>Task Group Vote:</b>	8-0-0	

<b>PC089 LogID 6052</b>	<b>610.1.1 Whole-building life cycle assessment</b>	<b>Final Formal Action: TBD</b>						
<b>Submitter:</b>	Steven Rosenstock							
<b>Public Comment:</b>	<table border="1"> <tr> <td><b>(2)</b></td> <td>Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using <u>energy supplier, utility, or EPA NERC</u> electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the <u>locality or</u> Sub-Region in which the building is located</td> <td><b>5</b></td> </tr> <tr> <td><b>(3)</b></td> <td>Execute full LCA, including use-phase, through calculation of operating energy impacts (c) – (f) using <u>energy supplier, utility, or EPA NERC local or regional</u> emissions factors <del>[provide full reference to NERC document or provide factor tables]</del>.</td> <td></td> </tr> </table>	<b>(2)</b>	Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using <u>energy supplier, utility, or EPA NERC</u> electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the <u>locality or</u> Sub-Region in which the building is located	<b>5</b>	<b>(3)</b>	Execute full LCA, including use-phase, through calculation of operating energy impacts (c) – (f) using <u>energy supplier, utility, or EPA NERC local or regional</u> emissions factors <del>[provide full reference to NERC document or provide factor tables]</del> .		
<b>(2)</b>	Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using <u>energy supplier, utility, or EPA NERC</u> electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the <u>locality or</u> Sub-Region in which the building is located	<b>5</b>						
<b>(3)</b>	Execute full LCA, including use-phase, through calculation of operating energy impacts (c) – (f) using <u>energy supplier, utility, or EPA NERC local or regional</u> emissions factors <del>[provide full reference to NERC document or provide factor tables]</del> .							
<b>Reason:</b>	This will clarify the language in the section, to look at all forms of energy supplied to the building, and to refer to the most appropriate sources for estimates being used.							

<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	Execute full LCA, including use-phase, through calculation of operating energy impacts (c) – (f) <u>using local or regional emissions factors from energy supplier, utility, or EPA NERC local or regional emissions factors [provide full reference to NERC document or provide factor tables].</u>
<b>Task Group Reason:</b>	No regional emissions factors were listed in NERC. Reference to EPA would help include additional regions.  Proposal required editorial change. “EPA local” was unclear.
<b>Task Group Vote:</b>	7-1-0

<b>PC090 LogID 6163</b>	<b>610.1.2.1 Product LCA</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Todd Jones	
<b>Public Comment:</b>	Product LCA. A product with improved environmental impact measures compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment <del>are selected from</del> <u>include</u> the following:  (b) <del>Global warming potential</del> <u>Direct and indirect greenhouse gas emissions (associated with product manufacturing and delivery)</u>	
<b>Reason:</b>	“Global warming potential” is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the product to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the product’s manufacturing and delivery. We suggest clarifying this.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	The commenter’s reason is for clarity but TG believes that the proposed language adds confusion. “Global Warming Potential” is the term currently used in rating systems and codes. Any LCA practitioner in compliance with ISO 14044 will consider direct and indirect greenhouse gas emissions as part of the global warming potential impact category. Outputs from many LCA software programs are aligned with Global Warming Potential. “Global Warming Potential” is broad term, not just focused on CO2.	
<b>Task Group Vote:</b>	6-0-1	

<b>PC091 LogID 6164</b>	<b>610.1.2.2 Building assembly LCA</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Todd Jones	
<b>Public Comment:</b>	(b) <del>Global warming potential</del> <u>Direct and indirect greenhouse gas emissions</u>	
<b>Reason:</b>	(b) “Global warming potential” is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building assembly to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the building assembly. We suggest clarifying this.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	The commenter’s reason is for clarity but TG believes that the proposed language adds confusion. “Global Warming Potential” is the term currently used in rating systems and codes. Any LCA practitioner	

	in compliance with ISO 14044 will consider direct and indirect greenhouse gas emissions as part of the global warming potential impact category. Outputs from many LCA software programs are aligned with Global Warming Potential. "Global Warming Potential" is broad term, not just focused on CO2.
<b>Task Group Vote:</b>	8-0-0

<b>PC092 LogID 6072</b>	<b>611.4 Product declarations</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	Paul Gay	
<b>Public Comment:</b>		
<b>Reason:</b>	is declaring a minimum of 10 different products a realistic target?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	TG feels that this is a realistic target based on product availability in the market.	
<b>Task Group Vote:</b>	6-0-1	

<b>PC093 LogID 6209</b>	<b>Chapter 6 Points</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	Task Group 3	
<b>Public Comment:</b>	All proposed updates to the point assignments for Chapter 6 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
<b>Reason:</b>	Based on Task Group 3 review of the point assignments for Chapter 6 in accordance with the established process.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	7-0-0	

## Chapter 7: Energy Efficiency

PC094 LogID 6202	701.1 Mandatory requirements (Energy Efficiency)	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Craig Conner	
<b>Public Comment:</b>	701.1 Mandatory Requirements. <u>Unless otherwise noted, buildings in the Tropical Climate Zone shall comply with Climate Zone 1 requirements.</u>	
<b>Reason:</b>	Some might be confused by the Tropical Climate Zone, which is really a subset of Zone 1. Sometimes the Climate Zone 1 requirements work for the tropics, sometime they do not.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	9-0-0	

PC095 LogID 6178	701.1 Mandatory requirements (Energy Efficiency)	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Jeff Inks	
<b>Public Comment:</b>		
<b>Reason:</b>	This comment is submitted on behalf of TG-5 – Energy Efficiency. Points for Chapter 7 – Energy Efficiency must still be updated by the NGBS Committee as a result of the approved changes that have been implemented throughout the chapter. In addition points need to be determined for the new tropical zone as well as for the Threshold Point Ratings, including what % above the 2015 IECC is needed for the Silver, Gold & Emerald tiers.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Approved draft Chapter 7 points as approved by the TG-5 in the draft Chapter 7 document which includes updated points.	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Based on points analysis conducted by the TG-5	
<b>Task Group Vote:</b>	12-0-0	

PC096 LogID 6118	701.1.2 Minimum Prescriptive Path requirements	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	701.1.2 Minimum Prescriptive Path requirements. A building complying with Section 703 shall obtain a minimum of 30 points from Section 703 and shall include a minimum of two practices from Section 705. <u>Multi-unit buildings are not eligible for achieving a rating using this path.</u>	
<b>Reason:</b>	Point totals for Prescriptive measures (based on % of improvement for the measure) do not correlate between single family homes and multi-unit buildings. The prescriptive points therefore should not apply to multi-unit.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	TG 5 – Disapprove TG 6 – Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	TG 5 – In favor of PC097  TG 6 – As written, this could eliminate the prescriptive compliance path for multifamily buildings, which is an important element for multifamily builder/owners. However, due to potential changes in this chapter, we must ensure that the allocations identified are suitable for multifamily projects (which may require a separate type of allocation for multifamily properties).	

<b>Task Group Vote:</b>	TG 5 – 7-0-0 TG 6 – 8-0-0
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<b>PC097 LogID 6132</b>	<b>701.1.2 Minimum Prescriptive Path requirements</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	aaron gary
<b>Public Comment:</b>	<b>701.1.2 Minimum Prescriptive Path requirements.</b> A building single family home complying with Section 703 shall obtain a minimum of 30 points from Section 703 and shall include a minimum of two practices from Section 705. <u>A multi-unit building complying with Section 703 shall obtain a minimum of XX points from Section 703 and shall include a minimum of two practices from Section 705.</u>  <u>New point assignment needed for each 703 credit.</u>
<b>Reason:</b>	The percentage of improvement calculations used to develop the points associated with specific measures in the Prescriptive path were based on a single family house and do not accurately reflect multi-unit buildings. A multi-unit building will need different point allocations on each credit and potentially a different total point for certification.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	TG 5 – Accept as Modified TG 6 – Accept
<b>Modification of Public Comment:</b>	TG 5 – See Appendix I with specific modifications to points and associated language for multifamily.
<b>Task Group Reason:</b>	TG 5 – Based on energy modeling specific to multifamily and TG discussion, specific point assignment modifications for multifamily have been developed and approved by TG.
<b>Task Group Vote:</b>	TG 5 – 6-0-1 TG 6 – 8-0-0

<b>PC098 LogID 6117</b>	<b>701.1.4 Alternative bronze level compliance</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	aaron gary
<b>Public Comment:</b>	701.1.43 Alternative bronze and silver level compliance. As an alternative, any building that qualifies as an ENERGY STAR Version 3.0 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. <del>0203</del> building achieves the bronze level for Chapter 7. As an alternative, any building that qualifies as an ENERGY STAR Version 3.1 Certified Home or ENERGY STAR Multifamily High Rise Version 1.0 Rev. <del>0203</del> (with the baseline at ASHRAE 90.1-2010) building achieves the silver level for Chapter 7. The buildings achieving compliance under Section 701.1.4 are not eligible for achieving a rating level above bronze silver
<b>Reason:</b>	Update references to current version of ENERGY STAR.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	TG 5 – Accept TG 6 – Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	TG 5 – 12-0-0 TG 6 – 8-0-0

<b>PC099 LogID 6096</b>	<b>701.1.4 Alternative bronze level compliance</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Siyng Zhang
<b>Public Comment:</b>	
<b>Reason:</b>	possibility of adding 2015 IECC code as alternative compliance path?
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove



<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Already required – 2015 IECC is base.
<b>Task Group Vote:</b>	12-0-0

<b>PC100 LogID 6196</b>	<b>701.1.4 Alternative bronze level compliance</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Craig Conner & Howard Wiig	
<b>Public Comment:</b>	Add as the next to last sentence:  <u>As an alternative in the Tropical Climate Zone, any building that meets the requirements in IECC Section R401.2.1 (Tropical Zone) achieves the silver level for Chapter 7.</u>	
<b>Reason:</b>	The IECC requirements in Section R401.2.1 (Tropical Zone) include: -- no heating -- no more than 1/2 the occupied space is cooled -- provision for using tropical breezes for cooling -- 90% solar water heating. These requirements would meet or exceed the silver level for Chapter 7.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	<i>Revise Public Comment as Follows (changes shown in red):</i> <u>As an alternative in the Tropical Climate Zone, any building that meets <b>all of</b> the requirements in IECC Section R401.2.1 (Tropical Zone) achieves the silver level for Chapter 7.</u>	
<b>Task Group Reason:</b>	Agree with submitter. Modification adds clarification.	
<b>Task Group Vote:</b>	8-0-1	

<b>PC101 LogID 6194</b>	<b>701.4.3.2 Air sealing and insulation</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Annette Rosenblum	
<b>Public Comment:</b>	Proposed resolution: 701.4.3.2 Air sealing and insulation. Grade <del>2 and</del> 3...  with a Table showing no points awarded for Grade 2.	
<b>Reason:</b>	The information provided in the comments by Randall Melvin support the use of Grade 2 insulation. The Maryland Building Industry Association agrees that Grade 2 use should be allowed. While grade 2 insulation installation is not perfect and will receive no points, it is still a relatively decent installation. It should be allowed by the NGBS as it adds critical practicality and flexibility to the Standard. Code Sections R101.3 Intent and R102.1 General support flexibility in the code and the use of any material or insulating system that meets the intent of the code, respectively.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>	Reinstate definition of Grade 2.	
<b>Task Group Reason:</b>	<i>Staff note: Add reason statement at June meeting</i>	
<b>Task Group Vote:</b>	7-2-3	

<b>PC102 LogID 6103</b>	<b>701.4.3.3 Multi-unit air leakage alternative</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	701.4.3.3 Multi-unit air leakage alternative. Multi-unit buildings in compliance with IECC section C402.5 (Air leakage-thermal envelope), <u>as applicable</u> , are deemed to comply with Sections 701.4.3.1 and 701.4.3.2.	
<b>Reason:</b>	Exception should only apply to multi-unit buildings that already fall under the the Commercial sections of the IECC.	
<b>Substantiating Documents:</b>	No	

<b>Task Group Recommendation:</b>	TG 5 – Accept as Modified TG 6 – Accept
<b>Modification of Public Comment:</b>	TG 5 – <i>Revise Public Comment as Follows (changes shown in red):</i> 701.4.3.3 Multi-unit air leakage alternative. Multi-unit buildings <u>four or more stories in height and</u> in compliance with IECC section C402.5 (Air leakage-thermal envelope), <del>as applicable,</del> are deemed to comply with Sections 701.4.3.1 and 701.4.3.2.
<b>Task Group Reason:</b>	TG 5 – Modification better clarifies as intended by the PC
<b>Task Group Vote:</b>	TG 5 – 12-0-0 TG 6 – 8-0-0

<b>PC103 LogID 6104</b>	<b>701.4.4 High-efficiency lighting</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	701.4.4 High-efficiency lighting. Lighting efficacy in <u>dwelling units</u> is in accordance with one of the following:...	
<b>Reason:</b>	The lighting power density of 1.1 watts/square foot cited as a mandatory is only relevant to dwelling units. Residential associated spaces within multi-unit buildings will have different targets based on use (per the 2015 IECC).	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	TG 5 – Accept TG 6 – Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	TG 5 – 7-0-0 TG 6 – 8-0-0	

<b>PC104 LogID 6097</b>	<b>701.4.4 High-efficiency lighting</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Siyang Zhang	
<b>Public Comment:</b>		
<b>Reason:</b>	clarify the applicability for multifamily buildings. In-unit lighting or this is in-unit+common spaces + exterior?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	TG 5 – Disapprove TG 6 – Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	TG 5 – In favor of PC103 which clarified this subject and no specific language proposed.  TG 6 – Although no actionable revision was submitted, the commenter’s question is addressed in LogID 6104.	
<b>Task Group Vote:</b>	TG 5 – 7-0-0 TG 6 – 8-0-0	

<b>PC105 LogID 6145</b>	<b>702.2.1 ICC IECC analysis</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Keith Dennis	
<b>Public Comment:</b>	Energy efficiency features are implemented to achieve energy cost <del>or source energy</del> performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC, Section R405, or ICC IECC Section 506C407.2 through 506C407.5, applied as defined in the ICC IECC, is required.	
<b>Reason:</b>	The source energy metric suggested in this section is deeply flawed. This methodology treats non-carbon emitting sources like solar, wind, biomass, hydro and nuclear as if they are extremely inefficient coal power plants. Using a source energy metric and related methodologies as proposed means that any renewable energy on the grid will be treated as if it is more than 3X less efficient than fossil fuel combustion of site. Among the serious flaws in this approach is that even if the grid were 100% powered	

	by renewable energy, consumers would be directed to burn fossil fuel in order to meet “green” codes. This is a in direct opposition to the intent of this code. Source values for other fuels suggested are also inaccurate. For a more detailed study on this issue prepared by Power Systems Engineering, see: <a href="http://www.nreca.coop/wp-content/uploads/2015/04/sourcesite_ratios_final_022015.pdf">http://www.nreca.coop/wp-content/uploads/2015/04/sourcesite_ratios_final_022015.pdf</a>
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Energy cost is preferred by the TG to maintain a single approach and to be consistent with previous versions of the standard.
<b>Task Group Vote:</b>	5-1-2

<b>PC106 LogID 6053</b>	<b>702.2.1 ICC IECC analysis</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Steven Rosenstock	
<b>Public Comment:</b>	702.2 Energy <u>cost</u> <del>cost</del> performance levels.	
<b>Reason:</b>	The proposed change will make this standard consistent with the previous versions of the standard, which reached a consensus to use energy cost performance.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Editorial based upon action on PC108.	
<b>Task Group Vote:</b>	6-1-1	

<b>PC107 LogID 6054</b>	<b>702.2.1 ICC IECC analysis</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Steven Rosenstock	
<b>Public Comment:</b>	702.2.1 ICC IECC analysis.  Energy efficiency features are implemented to achieve energy cost <del>or source energy</del> performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC, Section R405, or ICC IECC Section 506C407.2 through 506C407.5, applied as defined in the ICC IECC, is required.	
<b>Reason:</b>	The proposed change is not consistent with previous versions of the standard, and will not be consistent with other consensus standards (such as ASHRAE 90.1, ASHRAE 189.1, etc), which have achieved significant energy savings by using energy cost as the primary metric. Task Group 7 rejected the use of source energy in several votes.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Energy cost is preferred by the TG to maintain a single approach and to be consistent with previous versions of the standard.	
<b>Task Group Vote:</b>	5-1-2	

<b>PC108 LogID 6055</b>	<b>702.2.2 Energy performance analysis</b>	<b>Final Formal Action: TBD</b>
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<b>Submitter:</b>	Steven Rosenstock
<b>Public Comment:</b>	<p><b>702.2.2 Energy <u>cost</u> performance analysis.</b></p> <p>Energy <u>cost</u> savings levels above the ICC IECC are determined through an analysis that includes improvements in building envelope, air infiltration, heating system efficiencies, cooling system efficiencies, duct sealing, water heating system efficiencies, lighting, and appliances. Points are assigned using the following formula:</p>
<b>Reason:</b>	Reinsert the word "cost" to be consistent with the previous versions of the standard.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Editorial based upon action taken on PC's 105 & 107.
<b>Task Group Vote:</b>	6-1-1

<b>PC109 LogID 6098</b>	<b>702.2.2 Energy performance analysis</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Siyang Zhang	
<b>Public Comment:</b>		
<b>Reason:</b>	Add a formula for projects using 90.1 models with ASHRAE 90.1-2010 as baseline.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Unclear what proponent is actually recommending. No formula is provided nor is there an indication of what 90.1 models are being referenced. Current formula applies to all residential buildings covered by the standard.	
<b>Task Group Vote:</b>	8-0-0	

<b>PC110 LogID 6179</b>	<b>703.1 Mandatory practices</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Jeff Inks	
<b>Public Comment:</b>		
<b>Reason:</b>	This comment is submitted on behalf of TG-5 – Energy Efficiency. TG-5 is recommending that 30 points be assigned for meeting the mandatory practices of section 703. TG-5 is recommending that 30 points be assigned to be consistent with the previous editions of the NGBS for meeting the minimum requirements for achieving a bronze level rating.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Based on analysis and discussion by TG-5 and as noted in the above reason statement.	
<b>Task Group Vote:</b>	11-0-0	

<b>PC111 LogID 6025</b>	<b>703.1.1 UA compliance</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Roger L. LeBrun	

<b>Public Comment:</b>	<p><b>703.1.1 UA Compliance.</b></p> <p>The building <u>thermal envelope</u> is in compliance with Section 703.1.1.1 or 703.1.1.2.</p> <p>...</p> <p><b>703.1.1.2 Prescriptive R-values and Fenestration Requirements.</b></p> <p>The building <u>thermal envelope</u> is in accordance with the insulation and fenestration requirements of 2015 IECC Table R402.1.1 or Tables C402.1.3 and C402.4. The SHGC is in accordance with the 2015 IECC requirements.</p>
<b>Reason:</b>	UA only relates to the thermal envelope, so that phrase is needed in two places.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	12-0-0

<b>PC112 LogID 6087</b>	<b>703.1.3 Duct testing</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Chuck Arnold	
<b>Public Comment:</b>	<u>Exception: Section 703.1.3 is not required for Tropical Climate Zone.</u>	
<b>Reason:</b>	Need to add the same exception for tropical climate zones as listed for the rest of 703.1	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	If duct systems are installed in the Tropical Zone, they should be tested.	
<b>Task Group Vote:</b>	9-0-0	

<b>PC113 LogID 6180</b>	<b>703.2 Building envelope</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Jeff Inks	
<b>Public Comment:</b>		
<b>Reason:</b>	This comment is submitted on behalf of TG-5 – Energy Efficiency. Delete entire section 703.2.2 without replacement and move all of Section 703.2.2 to new Section 701.4.3.2.1. Given only Grade 1 insulation installation is permitted, there is no longer the need for the provisions in Section 703.2.2. As such, Grade 1 insulation installation is a minimum energy efficiency requirement in the NGBS and therefore is better located in Section 701, under Section 701.4.3 – Insulation and air sealing.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Based on action to Accept PC 101 as Modified	
<b>Task Group Vote:</b>	6-3-3	

<b>PC114</b>	<b>LogID 6195</b>	<b>703.2.2 Insulation installation</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Craig Conner		
<b>Public Comment:</b>	Section 703.2.2 .... <del>Grade 3 insulation installation is not permitted. Grade 2 installation is permitted only for bronze level buildings.</del>  text not shown in unchanged.		
<b>Reason:</b>	Section 703.2.2.1 was changed to allow only Grade 1 insulation. A coordinating change was not made with Section 703.2.2, as it makes no sense to mention Grade 2 or Grade 3 insulation any more.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Disapprove		
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>	Based on action to Accept PC 101 as Modified		
<b>Task Group Vote:</b>	6-3-3		

<b>PC115</b>	<b>LogID 6090</b>	<b>703.2.2 Insulation installation</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Chuck Arnold		
<b>Public Comment:</b>	The insulation installation is graded by a third party and is in accordance with Sections 703.12.2.1, 703.12.2.2, and/or 703.12.2.3 as applicable. Grade <u>2 &amp; 3</u> insulation installation is not permitted. <del>Grade 2 installation is permitted only for bronze level buildings.</del>  Table 703.2.2 needs to be modified as well.		
<b>Reason:</b>	Grade 2 Insulation installation is not permitted per 701.4.3.2		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Disapprove		
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>	Based on action to Accept PC 101 as Modified		
<b>Task Group Vote:</b>	6-3-3		

<b>PC116</b>	<b>LogID 6204</b>	<b>703.2.6.1 Fenestration Specifications</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Craig Conner & Howard Wiig		
<b>Public Comment:</b>	For both Section 703.2.6.1 and 703.2.6.2 <u>Exception: Windows and doors in the Tropical Climate Zone shaded by a projection factor of 0.30 or more.</u>		
<b>Reason:</b>	The tropical sun is overhead and does not get low in the sky. Where there are large shading devices or overhangs, the SHGC is not of much importance. For example large outdoor/indoor areas that are lanais can include substantial shading overhead.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Accept as Modified		
<b>Modification of Public Comment:</b>	<i>Revise Public Comment as Follows (changes shown in red):</i> Section 703.2.6.1 <del>and 703.2.6.2</del> <u>Exception: Windows and doors in the Tropical Climate Zone shaded by a projection factor of 0.30 or more.</u>		
<b>Task Group Reason:</b>	Agree with submitter. The exception should not be applicable to 703.2.6.2 as it is not needed and creates confusion.		
<b>Task Group Vote:</b>	9-0-0		

PC117 LogID 6026	703.2.6.2 Enhanced Fenestration Specifications	Final Formal Action: TBD
Submitter:	Roger L. LeBrun	
Public Comment:	Change C24 SHGC for Windows & Exterior Doors to <u>0.35</u> Change C24 SHGC for Skylights and TDDs to <u>0.30</u>  Change C24 U-Factor for Skylights and TDDs to <u>0.45</u> Change C25 U-Factor for Skylights and TDDs to <u>0.42</u>	
Reason:	In Table 703.2.6.2(c): 1. The SHGC values for Climate Zone 4 need to be lower than for Table (b) 2. The skylight U-Factors are in the triple pane range, and should be higher. The increase in stringency from Table (b) should be similar to that used for window U-Factor.	
Substantiating Documents:	No	
Task Group Recommendation:	Accept as Modified	
Modification of Public Comment:	<i>Revise Public Comment as Follows (changes shown in red):</i> <del>Change C24 SHGC for Windows &amp; Exterior Doors to 0.35</del> <del>Change C24 SHGC for Skylights and TDDs to 0.30</del>  Change C24 U-Factor for Skylights and TDDs to <u>0.45</u> Change C25 U-Factor for Skylights and TDDs to <u>0.42</u>	
Task Group Reason:	The proposed reductions in SHGC may not be appropriate for climate zone 4 (in some cases it may increase energy usage and in other cases not). In addition while the SHGC for windows & doors in Table c C24 is the same as in Table b, the U-factor in Table c is lower for those products.	
Task Group Vote:	5-1-0	

PC118 LogID 6056	703.3.3 Heat pump heating efficiency	Final Formal Action: TBD
Submitter:	Steven Rosenstock	
Public Comment:	<p><b>Table 703.3.3(2)</b>  <b>Gas Engine-Driven Heat Pump Heating</b>  6-8 b  b. Equipment designed to operate in cold climates is recommended to have a condensing furnace (at least 90 AFUE) as a backup system when installing a gas-fired heat pump in Zones 5-8.</p>	
Reason:	The modifications shown below will improve the table. There are no minimum federal efficiency standards for gas-fired heat pumps, so the backup system could have very low efficiency. Points for higher efficiency electric heating systems should be higher than for gas heat pump systems in all climate zones.	
Substantiating Documents:	No	
Task Group Recommendation:	Disapprove	
Modification of Public Comment:		
Task Group Reason:	"Recommended" is a term that could/would be difficult to enforce and concerns about specifying a minimum 90 AFUE. The market will also self-correct regarding the use of this equipment.	
Task Group Vote:	6-2-0	

PC119 LogID 6057	703.3.4 Cooling efficiency	Final Formal Action: TBD
Submitter:	Steven Rosenstock	
Public Comment:	<p><b>Table 703.3.4(2)</b>  <b>Gas Engine-Driven Heat Pump Cooling Efficiency</b>  Climate Zone  1</p>	

	2 3 4 5 6-8 <b>POINTS</b> >1.2 COP at 95°F <del>7</del> <u>2</u> <del>5</del> <u>1</u> <del>2</del> <u>0</u> <del>1</del> <u>0</u> <del>1</del> <u>0</u> 0	
<b>Reason:</b>	Gas cooling technology uses much more energy than electric cooling technology. For example, a 12.5 EER electric system is equivalent to 3.66 COP, compared to a 1.2 COP gas cooling system. Points for gas equipment should always be much less than for electric cooling equipment of any EER value shown, since they are using so much more energy.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	<i>Revise Public Comment as Follows (changes shown in red):</i> <b>Table 703.3.4(2)</b> <b>Gas Engine-Driven Heat Pump Cooling Efficiency</b> <b>Climate Zone</b> 1 2 3 4 5 6-8 <b>POINTS</b> >1.2 COP at 95°F <del>7</del> <u>2</u> <del>3</del> <del>5</del> <u>1</u> <del>6</del> <del>2</del> <u>0</u> <del>3</del> <del>1</del> <u>0</u> <del>1</del> <del>1</del> <u>0</u> <del>1</del> 0	
<b>Task Group Reason:</b>	Small residential size may not be widely available so relying on points for electric equipment.	
<b>Task Group Vote:</b>	6-0-1	

<b>PC120</b>	<b>LogID 6197</b>	<b>703.3.4 Cooling efficiency</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Craig Conner & Howard Wiig		
<b>Public Comment:</b>	Add a footnote to Table 703.3.4(1) For the Tropical Climate Zone: <u>not air conditioning half the occupied space is 20 points.</u> <u>not air conditioning any occupied space is 40 points.</u>		
<b>Reason:</b>	One important energy saving strategy in the Tropical Climate Zone is not to air condition part or all of the home. IECC Section R401.2.1 (Tropical Zone option) requires half the occupied space to be un-air conditioned. Obviously no air conditioning saves more energy than a high SEER. This is shown as a footnote to Table 703.3.4(1), but it also could be a sentence in the section.		
<b>Substantiating Documents:</b>	No		



<b>Task Group Recommendation:</b>	As Modified
<b>Modification of Public Comment:</b>	<i>Revise Public Comment as Follows (changes shown in red):</i> For the Tropical Climate Zone: <del>not air conditioning half the occupied space is 20 points.</del> not air conditioning any occupied space <u>and where ceiling fans are provided for bedrooms and the largest space that is not used as a bedroom is 40 20points.</u>
<b>Task Group Reason:</b>	Eliminate the reference to partial air-conditioning in favor of no air-conditioning installed to simplify the verification process and to align the point level with the expected energy savings.
<b>Task Group Vote:</b>	8-0-0

<b>PC121 LogID 6181</b>	<b>703.3.9 In multi-unit buildings, energy data available to occupants</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Jeff Inks
<b>Public Comment:</b>	
<b>Reason:</b>	This comment is submitted on behalf of TG-5 – Energy Efficiency. Move entire Section 703.3.9 to Section 705 – Additional Practices, under Section 705.4 accordingly and maintain one point award for the practice. TG-5 believes credit for this practice should be earned as an additional practice rather than earned as an option included under Section 703.3.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	TG 5 – Accept TG 6 – Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	TG 5 – 12-0-0 TG 6 – 8-0-0

<b>PC122 LogID 6105</b>	<b>703.4.4 Duct Leakage</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	aaron gary
<b>Public Comment:</b>	703.4.4 Duct Leakage. The entire central HVAC duct system, including air handlers and registerboots, is tested by a third party for total leakage at a pressure differential of 0.1 inches w.g. (25 Pa)and maximum air leakage is equal to or less than <del>6 percent of the system design flow rate</del> <u>3 cubic feet per minutes per 100 square feet of conditioned floor area.</u>
<b>Reason:</b>	Align with 2015 IECC
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	<i>Revise Draft Standard as Follows:</i> 703.3.4 Duct Leakage. The entire central HVAC duct system, including air handlers and register boots, is tested by a third party for total leakage at a pressure differential of 0.1 inches w.g. (25 Pa)and maximum air leakage is equal to or less than 6 percent of the system design flow rate <u>or 4 cubic feet per minute per 100 square feet of conditioned floor area.</u>
<b>Task Group Reason:</b>	To be consistent with the IECC and QI 5.
<b>Task Group Vote:</b>	12-0-0

<b>PC123 LogID 6182</b>	<b>703.6.2 Recessed luminaires</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Jeff Inks
<b>Public Comment:</b>	
<b>Reason:</b>	This comment is submitted on behalf of TG-5 – Energy Efficiency. Move entire Section 703.6.2 to Section 705 – Additional Practices, under Section 705.2 accordingly and award one point for the practice. Renumber remaining 703.6 accordingly. TG-5 believes credit for this practice should be earned as an additional practice rather than earned as an option included under Section 703.6.

<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	12-0-0

<b>PC124 LogID 6183</b>	<b>703.6.4 Induction cooktop</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Jeff Inks	
<b>Public Comment:</b>		
<b>Reason:</b>	This comment is submitted on behalf of TG-5 – Energy Efficiency. Move entire Section 703.6.4 to Section 705 – Additional Practices, as new Section 705.3 and renumber remaining Section 703.6 and Section 705 accordingly. Maintain one point award for the practice. TG-5 believes credit for this practice should be earned as an additional practice rather than earned as an option included under Section 703.6.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	12-0-0	

<b>PC125 LogID 6099</b>	<b>704.1 HERS index target compliance</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Siyang Zhang	
<b>Public Comment:</b>		
<b>Reason:</b>	Clarify the version of Energy Star protocol	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Based upon action on 98, 189 & 190.	
<b>Task Group Vote:</b>	12-0-0	

<b>PC126 LogID 6106</b>	<b>705.1 Application of additional practice points</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	705.1 Application of additional practice points. Points from Section 705704 can be added to points earned in Section 702 (Performance Path), Section 703 (Prescriptive Path), Section704 (HERS Index Target Path), or Section 701.1.34(alternative bronze and silver level compliance).	
<b>Reason:</b>	clean up section references	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Note: Identical to 127	
<b>Task Group Vote:</b>	12-0-0	

<b>PC127 LogID 6088</b>	<b>705.1 Application of additional practice points</b>	<b>Final Formal Action: TBD</b>
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<b>Submitter:</b>	Chuck Arnold
<b>Public Comment:</b>	Application of additional practice points. Points from Section 705704 can be added to points earned in Section 702 (Performance Path), Section 703 (Prescriptive Path), Section 704 (HERS Index Target Path), or Section 701.1.34 (alternative bronze and silver level compliance).
<b>Reason:</b>	Needs to be reworded so it matches changes made to 701.1.4
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Note: Identical to 126
<b>Task Group Vote:</b>	12-0-0

<b>PC128 LogID 6073</b>	<b>705.2.1 Lighting controls</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Chuck Arnold	
<b>Public Comment:</b>	25-49 percent 50-74 percent 75 percent <u>or more</u>	
<b>Reason:</b>	The percentages listed should provide a specific range and not list a specific percentage. This should be done for each of the subsections - interior, exterior, and multi-unit common areas.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	TG 5 – Accept as Modified TG 6 – Accept	
<b>Modification of Public Comment:</b>	TG 5 – Modifying by inserting the phrase “a minimum of” before 50 & 75 percent and by striking 25 percent.	
<b>Task Group Reason:</b>	TG 5 – To be consistent with other provisions in Chapter 7 and removal of 25 percent from provisions	
<b>Task Group Vote:</b>	TG 5 – 11-0-0 TG 6 – 8-0-0	

<b>PC129 LogID 6205</b>	<b>705.2.1 Lighting controls</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Craig Conner	
<b>Public Comment:</b>		
<b>Reason:</b>	The terms "vacancy sensor" and "occupancy sensor" overlap and should be combined. Sensor is something that is used outside of lighting, so the terms should not specify lighting. See Sections 705.2.1.1 and 705.2.1.3. Some parts of NGBS use just "occupancy sensor" those can remain as is.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept as Modified	
<b>Modification of Public Comment:</b>	<del><b>VACANCY SENSOR.</b> Devices that generally use passive infrared and/or ultrasonic technology or a combination of multiple sensing technologies to determine if a space is occupied. If a space is unoccupied, the device will automatically turn the lights off, but the device does not automatically turn lights on.</del>  <b>705.2.1.1 Interior lighting.</b> In dwelling units, permanently installed interior lighting fixtures are controlled with an <del>vacancy sensor</del> , occupancy sensor, or dimmer:  <b>705.2.1.3 Multi-unit common areas.</b> (1) In a multi-unit building, <del>vacancy sensors</del> , occupancy sensors, or dimmers are installed in common areas (except corridors and stairwells).	
<b>Task Group Reason:</b>	Occupancy sensor is an umbrella term that covers vacancy sensors.	
<b>Task Group Vote:</b>	7-0-0	

<b>PC130</b>	<b>LogID 6107</b>	<b>705.3 Return ducts and transfer grilles</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary		
<b>Public Comment:</b>	705.3 Return ducts and transfer grilles. Return ducts or transfer grilles are installed in every room with a door. Return ducts or transfer grilles are not required for bathrooms, kitchens, closets, pantries, and laundry rooms. <u>52</u> (points)		
<b>Reason:</b>	Point value of this credit is overvalued in comparison to others that provide more measurable energy performance improvement given revised point threshold for Chapter 7.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Accept		
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>	Consistent with previous action on points.		
<b>Task Group Vote:</b>	7-0-0		

<b>PC131</b>	<b>LogID 6108</b>	<b>705.4.3 Air handler leakage</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary		
<b>Public Comment:</b>	Remove 705.4.3 Air handler Leakage in its entirety.		
<b>Reason:</b>	This credit is mandatory code requirement of the 2015 IECC and should not be worth additional points.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Accept		
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			
<b>Task Group Vote:</b>	6-0-0		

<b>PC132</b>	<b>LogID 6109</b>	<b>705.5.1 Third-party inspections (Installation and performance verification)</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary		
<b>Public Comment:</b>	705.5.1 Third-party on-site inspection is conducted to verify compliance with all of the following, as applicable. Minimum of two inspections are performed: one inspection after insulation is installed and prior to covering, and another inspection upon completion of the building. Where multiple buildings or dwelling units of the same model are built by the same builder, a representative sample inspection of a minimum of 15 percent of the buildings or dwelling units is permitted. <u>53</u> (points)		
<b>Reason:</b>	This credit is overvalued in light of revised Chapter 7 thresholds.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>	Accept		
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>	Based on previous action on points		
<b>Task Group Vote:</b>	6-0-0		

<b>PC133</b>	<b>LogID 6110</b>	<b>705.5.2.1 Building envelope leakage testing</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary		
<b>Public Comment:</b>	705.5.2.1 Building envelope leakage testing. Building envelope leakage testing is performed in accordance with the following:(Points awarded only for buildings where building envelope leakage testing is not required by 2015 IECC.) (1) A blower door test and a visual inspection are performed as described in <del>701.4.3.2</del> <u>IECC</u>		

	C402.5. <del>5TBD3</del> (points) (2) Third-party verification is completed. <del>5TBD</del> (points)
<b>Reason:</b>	Align target with 2015 IECC for Commercial Multifamily projects (which are the only projects eligible for this credit).
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	TG 5 – Accept as Modified TG 6 – Accept
<b>Modification of Public Comment:</b>	TG 5 – <i>Revise the Draft Standard as follows:</i> A blower door test and a visual inspection are performed as described in <del>701.4.3.2</del> IECC C402.5
<b>Task Group Reason:</b>	TG 5 – Points are based on the previously approved language. TG agrees with the change to the IECC reference.
<b>Task Group Vote:</b>	TG 5 – 7-0-0 TG 6 – 8-0-0

<b>PC134 LogID 6079</b>	<b>705.5.2.1 Building envelope leakage testing</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Chuck Arnold	
<b>Public Comment:</b>	<del>(Points awarded only for buildings where building envelope leakage testing is not required by 2015 IECC.)</del>	
<b>Reason:</b>	The new language specifying points awarded only for buildings where building envelope leakage testing is not required by 2015 IECC results in points only being awarded for homes in a tropical zone. This restriction should be removed.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Building envelope leakage testing is not required by the commercial provisions of the IECC which are applicable to multi-unit residential buildings with four or more stories.	
<b>Task Group Vote:</b>	7-0-0	

<b>PC135 LogID 6111</b>	<b>705.5.2.2 HVAC airflow testing</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	705.5.2.2 HVAC airflow testing. Balanced HVAC airflows are demonstrated by flow hood or other acceptable flow measurement tool by a third party. Test results are in accordance with both of the following: <del>8</del> <u>5</u> (points)	
<b>Reason:</b>	The points for this credit are overvalued given the revised Chapter 7 thresholds.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	6-0-0	

<b>PC136 LogID 6113</b>	<b>705.5.3 Insulating hot water pipes</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	705.5.3 Insulating hot water pipes. Insulation with a minimum thermal resistance (R-value)of at least R-3 is applied to the following, as applicable: <del>1</del> (Points awarded only where these practices are not required by <del>2015</del> -IECC.)	
<b>Reason:</b>	Remove 2015 from text for consistency (alternatively add 2015 into text for all credits where the IECC is referenced.	

<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	7-0-0

<b>PC137 LogID 6112</b>	<b>705.5.2.3 HVAC duct leakage testing</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	705.5.2.3 HVAC duct leakage testing. One of the following is achieved:(Points awarded only for buildings where duct leakage testing is not required by 2015 IECC.) (1) Duct leakage is in accordance with 2015 IECC R403.3.3 and R403.3.4. <del>3</del> (points) (2) Duct leakage is in accordance with 2015 IECC R403.3.3 and R403.3.4, and testing is conducted by an independent third-party. <del>5</del> (points)	
<b>Reason:</b>	Remove 2015 reference for consistency (alternatively add 2015 into all credits where the "IECC" is referenced. Suggested points for each measure.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	7-0-0	

<b>PC138 LogID 6089</b>	<b>705.5.2.3 HVAC duct leakage testing</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Chuck Arnold	
<b>Public Comment:</b>	<del>(Points awarded only for buildings where duct leakage testing is not required by 2015 IECC.)</del>	
<b>Reason:</b>	The new language specifying points awarded only for buildings where building envelope leakage testing is not required by 2015 IECC results in points only being awarded for homes in a tropical zone. This restriction should be removed.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Duct leakage testing is not required by the commercial provisions of the IECC which are applicable to multi-unit residential buildings with four or more stories.	
<b>Task Group Vote:</b>	7-0-0	

<b>PC139 LogID 6100</b>	<b>706.3 Smart Appliances and Systems</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Siyang Zhang	
<b>Public Comment:</b>		
<b>Reason:</b>	define smart appliances...	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		

<b>Task Group Reason:</b>	Proponent provided no definition for consideration and what “smart appliances” are is already sufficiently understood.
<b>Task Group Vote:</b>	7-0-0

<b>PC140 LogID 6114</b>	<b>706.5 On-site renewable energy system</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	706.5 On-site renewable energy system. An on-site renewable energy system(s) is installed on the property (Points awarded for every <del>100-W</del> <u>1 kW</u> of system rating installed for every 2,000 square feet of total conditioned floor area of the building. Points shall not be awarded in this section for solar thermal or geothermal systems that provide space heating, space cooling, or water heating, Points for these systems are awarded in Section 703.)	
<b>Reason:</b>	Points are assigned for renewable energy are overvalued given the revised chapter 7 thresholds. For example a 5 KW PV system (which is now fairly affordable) is worth 50 points on a 2000 SF home. Under the revised Chapter 7 thresholds this now places a home that meets the minimum compliance thresholds + a 5 KW PV system into Emerald certification.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Based upon previous action on points for this practice.	
<b>Task Group Vote:</b>	6-0-0	

<b>PC141 LogID 6166</b>	<b>706.5 On-site renewable energy system</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Todd Jones	
<b>Public Comment:</b>	An on-site renewable energy system(s) is installed on the property, <u>and the renewable energy certificates (RECs) are retained and retired on-site for the building’s own consumption.</u>	
<b>Reason:</b>	If the intent of this requirement is that buildings use/consume the renewable electricity from an onsite system (as opposed to installing an onsite system and generating green power for other grid consumers, or which the utility could potentially use to meet a state requirement), then the building must retain and retire the renewable energy certificates (RECs) associated with the electricity generated onsite.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	May not be available in all areas and would add significant recordkeeping/administrative burden especially for single family construction.	
<b>Task Group Vote:</b>	6-0-0	

<b>PC142 LogID 6201</b>	<b>706.7 Grid-interactive electric thermal storage system</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Craig Conner & Howard Wiig	
<b>Public Comment:</b>	<p><del><b>706.7 Grid-interactive electric thermal storage system.</b> A grid-interactive electric thermal storage esystem is installed-</del></p> <p><del>(1) Grid-Interactive Water Heating System-</del></p> <p><del>(2) Grid-Interactive Space Heating System-</del></p> <p><del><b>GRID-INTERACTIVEELECTRIC THERMAL STORAGE (GETS).</b> An energy storage system that provides electric system grid operators such as utilities, independent system operators (ISOs) and regional transmission organizations (RTOs), with variable control of a building’s space heating and service water heating end uses.</del></p>	

	<b>706.9 Automatic demand response.</b> Automatic demand response system is installed that curtails energy usage upon a signal from the utility or an energy service provider <del>is installed.</del>
<b>Reason:</b>	Smart Appliance (706.3), Automatic Demand Response (706.9), and Grid Interactive Electric Thermal Storage System (706.7) are overlapping and double or triple counting. A water heater could do all three, for example. Delete 706.7, which seems the most poorly defined and badly named; as well as incomplete (Grid-interactive Space Cooling System would be possible too). This change leaves the other two sections, one section for having the appliance and the other for connecting them to the utility. This also made an editorial change in Section 706.9.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	3-1-1

<b>PC143 LogID 6213</b>	<b>Chapter 7 Points</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	Task Group 5	
<b>Public Comment:</b>	All proposed updates to the point assignments for Chapter 7 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
<b>Reason:</b>	Based on Task Group 5 review of the point assignments for Chapter 7 in accordance with the established process.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Approved draft Chapter 7 points as approved by the TG-5 in the draft Chapter 7 document which includes updated points.	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Based on points analysis conducted by TG-5	
<b>Task Group Vote:</b>	12-0-0	



## Chapter 8: Water Efficiency

<b>PC144</b> LogID 6018	<b>801.6.1 Multi-stream rotating nozzles (Irrigation systems)</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Brent Mecham
<b>Public Comment:</b>	801.6.1 <del>Sprinkler</del> Multi-stream, multi-trajectory rotating nozzles are installed in lieu of or spray head nozzles shall have a maximum precipitation rate of 1.20 inches per hour for turf or landscaping. Nozzle performance is tested by an accredited third party laboratory and results are posted on Smart Water Application Technologies website or similar.
<b>Reason:</b>	Simplify language to cover all sprinkler and nozzles that could be used including new technology that is being developed, but to limit the choices with the specified maximum precipitation rate. Establish a common location where nozzle performance can be posted such as Smart Water Application Technologies (SWAT) which has done this for a number of years for controller, soil moisture sensors etc. www.irrigation.org/SWAT is often referenced in many landscape/irrigation ordinances. When/If EPA WaterSense labels the nozzles, that would be a future reference.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	6-0-0

<b>PC145</b> LogID 6149	<b>801.6.2 Drip irrigation is installed</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Lauren Helixon
<b>Public Comment:</b>	
<b>Reason:</b>	This credit is too stringent and limited in scope. For part 1, this strategy assumes drip irrigation is the preferred method to irrigate landscape beds, but this is not always the case. For example, what if a landscape bed includes a tree or is comprised of only a tree with mulch? In this situation it might be more appropriate to install a bubbler feature so as to provide adequate amounts of water for the root system. How would this situation be handled by the standard? As it relates to part 2 of the credit, it is infeasible to expect all turf landscaping to utilize drip irrigation. Rather than an "all or nothing" strategy, why not provide a point threshold based upon a percentage of turf irrigated with drip irrigation?
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Specific changes to the credit were not proposed. As a green code, the NGBS is designed to be more stringent than common practice. Drip systems can be used for trees by using zones, adjusting the number of emitters and the flow rate of emitters. If all turf grass in a design is not suitable for underground drip then the credit is not achievable.
<b>Task Group Vote:</b>	5-1-0

<b>PC146</b> LogID 6129	<b>801.6.3 Irrigation plan and implementation</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Anthony Floyd
<b>Public Comment:</b>	801.6.3 Irrigation plan and implementation are executed by a professional certified by a WaterSense labeled program or equivalent <u>qualified professional</u> as approved by Adopting Entity.  <del>5-Mandatory</del>
<b>Reason:</b>	Any irrigation plan should be prepared by a qualified irrigation professional to ensure a water efficient design and installation based on landscape plant selection and placement. A WaterSense certified

	professional or equivalent qualified professional is crucial to designing any effective irrigation system and therefore should be mandatory, particularly for sites associated with green buildings. Adopting entities need qualified professionals preparing qualified plans. Otherwise, unqualified plans lead to substandard installations and unintended outcomes.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	The term qualified professional is redundant when “or equivalent” is present. Making this practice mandatory does not take into account a situation where no irrigation is installed.
<b>Task Group Vote:</b>	6-0-0

<b>PC147 LogID 6019</b>	<b>801.6.4 Irrigation system(s) smart controller or no irrigation is installed</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Brent Mecham
<b>Public Comment:</b>	(2) Irrigation controllers are <u>labeled by EPA in accordance with WaterSense program. Specification for Weather-Based Irrigation Controllers Version 1.0, 2011</u>
<b>Reason:</b>	Open the door for other types of controllers that could be labeled by the EPA WaterSense program besides just weather-based controller. EPA is looking at labeling other products. Changes would then keep this timeless and in case modifications to the listed specification are made. To earn the label, the products are tested by qualified labs and have to meet minimum performance specifications.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	6-0-1

<b>PC148 LogID 6020</b>	<b>801.6.5 Irrigation zones with pressure regulation</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Brent Mecham
<b>Public Comment:</b>	801.6.5 All <del>sprinkler</del> irrigation zones utilize pressure regulation <u>or pressure compensation</u> so <del>sprinklers</del> <u>emission devices (sprinklers and drip emitters)</u> operate at manufacturer’s recommended operating pressure.
<b>Reason:</b>	All irrigation zones should have proper pressure regulation including the drip irrigation zones for the emission devices to have proper operating pressures. There is a slight difference between pressure regulation and pressure compensation, so both technologies should be included.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	<i>Revise Public Comment as Follows (changes shown in red):</i> 801.6.5 All <del>sprinkler</del> irrigation zones utilize pressure regulation <u>or pressure compensation</u> so <del>sprinklers</del> <u>emission devices (sprinklers and drip emitters)</u> operate at manufacturer’s recommended operating pressure.
<b>Task Group Reason:</b>	Unsure about the added cost with adding pressure compensation pumps.
<b>Task Group Vote:</b>	7-0-0

<b>PC149 LogID 6156</b>	<b>802.1 Reclaimed, gray, or recycled water (Innovative practices)</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	marie nisson
<b>Public Comment:</b>	(Points awarded for either Section 802.56 or 802.1, not both.)

<b>Reason:</b>	The numbering for the practice has changed due to additions included in the draft. This recommendation matches the intent of the statement with the new numbering
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Points note in 802.1 not updated.
<b>Task Group Vote:</b>	7-0-0

<b>PC150 LogID 6016</b>	<b>802.2 Reclaimed water, greywater, or rainwater pre-piping</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Dana Bres
<b>Public Comment:</b>	802.2 Reclaimed water, graywater, or rainwater pre-piping. Reclaimed, graywater, or rainwater systems are rough plumbed (and permanently marked, tagged or labeled) into buildings for future use where service is not yet available or permitted by applicable codes or by the authority having jurisdiction.
<b>Reason:</b>	The property may be sold to a new owner before reclaimed, graywater or rainwater systems are permitted by the AHJ. Permanently marking the rough plumbing will prevent cross connects and assist the future homeowner
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	7-0-0

<b>PC151 LogID 6032</b>	<b>802.2 Reclaimed water, greywater, or rainwater pre-piping</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Michael Cudahy
<b>Public Comment:</b>	802.2 Reclaimed water, graywater, or rainwater pre-piping. Reclaimed, graywater, or rainwater systems are rough plumbed into buildings for future use. <del>where service is not yet available or permitted by applicable codes or by the authority having jurisdiction.</del>
<b>Reason:</b>	The roughing in of piping for future water conserving systems should be encouraged beyond areas where it is not yet permitted. Designing a building for future use of these systems deserves some credit. In many cases, and especially in a slab on grade home, a retrofit is too costly and difficult.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	7-0-0

<b>PC152 LogID 6210</b>	<b>Chapter 8 Points</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Task Group 4
<b>Public Comment:</b>	All proposed updates to the point assignments for Chapter 8 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.
<b>Reason:</b>	Based on Task Group 4 review of the point assignments for Chapter 8 in accordance with the established process.
<b>Substantiating Documents:</b>	No

<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	7-0-0

## Chapter 9: Indoor Environmental Quality

<b>PC153</b> LogID 6158	<b>901.1.4 Gas fireplaces and direct heating equipment vented outdoors</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Michelle Desiderio	
<b>Public Comment:</b>	Mandatory <u>for fireplaces within dwelling units.</u>	
<b>Reason:</b>	Continue to have the practice Mandatory for fireplaces within dwelling units but allow for unvented fireplaces in common areas, with the option to get points if they are vented. The NGBS mandates fireplaces must be vented to the outdoors because of concern for unvented fireplaces within SF homes and MF dwelling units. However, many multifamily buildings are installing one single fireplace in the lobby. This one fireplace, if it is not vented can render the entire MF building from being certified under the NGBS. While there is reasonable concern regarding the indoor environmental quality in apartments or homes with unvented fireplaces, there is not nearly the concern with one fireplace in the lobby area of a MF building. The proposal below would change the points for this practice to make it not mandatory to vent fireplaces that are in the lobby/common area of MF buildings but still require venting for fireplaces in SF homes or MF dwelling units.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	TG 3 – Accept TG 6 – Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	TG 3 – 3-2-2 TG 6 – 8-0-0	

<b>PC154</b> LogID 6130	<b>901.12 Carbon monoxide alarms</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Anthony Floyd	
<b>Public Comment:</b>	901.12 Carbon monoxide (CO) alarms. A carbon monoxide (CO) alarm is <u>provided in accordance with the IRC Section R315 installed in a central location of each sleeping area in the immediate vicinity of the bedrooms. The CO alarm(s) is located in accordance with NFPA 720 and is hardwired with a battery backup. The alarm device(s) is certified by a third party for conformance to either CSA 6.19 or UL 2034.</u> <del>4</del> <u>Mandatory</u>	
<b>Reason:</b>	Carbon monoxide (CO) alarms are required by 2015 IRC when there is a fuel-fired appliance located in the house or where there is an attached garage with an opening into the dwelling. CO alarm locations are prescribed by the IRC and no longer NFPA 720. As a code requirement, CO alarms should be mandatory and not point-based. This eliminates “unfairness” of home fuel differences and the ability for a home to achieve NGBS points.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	5-0-2	

<b>PC155</b> LogID 6199	<b>901.2.2 Solid fuel-burning appliances are not installed</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Joe Seymour	
<b>Public Comment:</b>	Page 90, 901.2.2 Fireplaces, woodstoves, pellet stoves, or masonry heaters are not installed 7  Change: <b>7</b> to <del>7</del> and replace with <b>0</b>	

<b>Reason:</b>	"Remove Point Total for Section 901.2.2" Reason statement: Chapter 9, Indoor Environmental Quality, section 901.2.1, awards various point totals for code-compliant wood-burning stoves and heaters, whereas section 901.2.2 awards the highest total, seven points for non-installation of woodstoves, pellet stoves and masonry heaters. These adjoining sections, taken together, provide unclear guidance on installing clean, highly efficient wood-burning technologies. In fact, several wood-burning appliances achieve the highest efficiencies available for renewable heating. Furthermore, maintaining different point classes for installation and non-installation make no sense when taking in consideration widely-available, clean, wood-burning technologies that meet NGBS principles.
<b>Substantiating Documents:</b>	Yes, substantiating documents can be found at <a href="http://homeinnovation.com/ngbs">homeinnovation.com/ngbs</a> under the Public Comments section
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	Replace 7 points with 6.
<b>Task Group Reason:</b>	Not installing fireplaces provides environmental benefit equal to that in practices above.
<b>Task Group Vote:</b>	4-1-2

<b>PC156 LogID 6136</b>	<b>901.7 Floor materials</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	"Points are awarded for every 10% of conditioned floor space using one of the below materials, <u>up to a maximum of 6 points:</u> "	
<b>Reason:</b>	The new language states: "Points are awarded for every 10% of conditioned floor space using one of the below materials:" yet the number of points available (6) indicates that no points are available past 60%. We feel that for this credit that it is appropriate to leave six as the maximum number of points available and suggest language to clarify this in the provision. There is a similar issue in Chapter 11, Section 11.901.7, which has parallel language for remodeling.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	6-0-1	

<b>PC157 LogID 6030</b>	<b>902.1.5 Fenestration cross-ventilation</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Roger L. LeBrun	
<b>Public Comment:</b>	<p>902.1.5</p> <p>Fenestration in spaces other than those identified in 902.1.1 through 902.1.4 are designed for <u>stack effect</u> or cross-ventilation in accordance with all of the following:</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>Operable windows, <u>skylights</u> and sliding glass doors with a total area of at least 15 percent of the conditioned floor area are provided.</p> <p>(2)</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Insect screens are provided for all operable windows, <u>skylights</u> and sliding glass doors.</p> </div> <p>(3)</p> </div>	

	<p style="text-align: center;"><u>Wherever practical, An operable skylight is installed, and a minimum of two operable windows or sliding glass doors are placed in adjacent or opposite walls. If there is only one wall surface in that space exposed to the exterior, the minimum windows or sliding glass doors may be on the same wall.</u></p> <p>(1)</p>
<b>Reason:</b>	Stack effect natural ventilation is much more effective than cross-ventilation. It should be provided wherever cross-ventilation is not possible, and is preferable to cross-ventilation whenever practical.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	Operable windows, <u>operable skylights</u> and sliding glass doors with a total area of at least 15 percent of the conditioned floor area are provided.  Insect screens are provided for all operable windows, <u>operable skylights</u> and sliding glass doors.
<b>Task Group Reason:</b>	Edit adds clarity. To earn points, skylights must be operable.
<b>Task Group Vote:</b>	6-0-1

<b>PC158 LogID 6077</b>	<b>902.2.2 Whole building ventilation airflow is tested</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Chuck Arnold
<b>Public Comment:</b>	902.2.3 MERV filters <del>8 or greater</del> <u>to 13</u> are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of MERV 8 <u>to 13</u> filters.  <u>902.2.4 MERV filters 14 or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.</u>
<b>Reason:</b>	Additional language has been adopted for this section in Chapter 11. The Chapter 11 additions should be added in Chapter 9.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	None
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	TG vote was tied, defer to full committee

<b>PC159 LogID 6139</b>	<b>902.2.3 MERV 8 filters</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Susan Gitlin
<b>Public Comment:</b>	902.2.3 MERV filters <del>8 or greater</del> <u>to 13</u> are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of MERV 8 <u>to 13</u> filters.
<b>Reason:</b>	To maintain consistency between the sections, incorporate the new language of 11.902.2.3 into Section 902.2.3.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	None
<b>Modification of Public Comment:</b>	

<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	TG vote was tied, defer to full committee

<b>PC160 LogID 6076</b>	<b>904.1 Indoor air quality (IAQ) during construction</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Chuck Arnold
<b>Public Comment:</b>	...water damage (per ASTM D7338-10 section 7.4.3), and visible dust.
<b>Reason:</b>	It is unreasonable to expect there will be no visible dust during construction.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Inspection is to occur prior to occupancy. Construction activities should be completed by that time.
<b>Task Group Vote:</b>	6-0-0

<b>PC161 LogID 6075</b>	<b>904.2 Indoor air quality (IAQ) post completion</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Chuck Arnold
<b>Public Comment:</b>	Verify <u>there are no</u> moisture, mold, and dust issues <u>per 602.1.7(3), 901.4-901.11, ASTM D7338 section 6.3 and ASTM D7338 section 7.4.3.</u>
<b>Reason:</b>	It is unclear from the wording what is to be checked.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	6-0-0

<b>PC162 LogID 6157</b>	<b>Other for Chapter 7 (include section number and title below)</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Michelle Desiderio
<b>Public Comment:</b>	704.4.2 Performance of the heating and/or cooling system is verified <u>through commissioning</u> by the HVAC contractor .....
<b>Reason:</b>	Editorial change to add the term "Commissioning" to the practice below (because that is the official term for the actions) and the NGBS is often compared unfavorably to LEED because there is not a specific practice for "commissioning."
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	"Commissioning" implies 3 <sup>rd</sup> party verification which is not required by this section.
<b>Task Group Vote:</b>	10-0-0

<b>PC163 LogID 6140</b>	<b>Other for Chapter 9 (include section number and title below)</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Susan Gitlin
<b>Public Comment:</b>	<u>902.2.4 MERV filters14 or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.</u>



<b>Reason:</b>	To maintain consistency between the sections, incorporate the new language of 11.902.2.4 into a new Section 902.2.4.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	None
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	TG vote was tied, defer to full committee

<b>PC164 LogID 6211</b>	<b>Chapter 9 Points</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	Task Group 3	
<b>Public Comment:</b>	All proposed updates to the point assignments for Chapter 9 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
<b>Reason:</b>	Based on Task Group 3 review of the point assignments for Chapter 9 in accordance with the established process.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	4-0-2	

## Chapter 10: Operation, Maintenance, and Building Owner Education

PC165 LogID 6058	1001.1 Building owner's manual is provided	Final Formal Action: TBD
<b>Submitter:</b>	Steven Rosenstock	
<b>Public Comment:</b>	<del>Detailed information about the National Green Building Standard, its requirements, and how NGBS compliance was determined, along with a</del> A green building program certificate or completion document.	
<b>Reason:</b>	Detailed information about the NGBS is not needed by the homeowner to operate or maintain the green features of the home. How detailed is this supposed to be?	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	The TG believes that the detailed information may be helpful to the home owner in understanding the process and the operation and maintenance of the home.	
<b>Task Group Vote:</b>	9-0-0	

PC166 LogID 6167	1001.1 Building owner's manual is provided	Final Formal Action: TBD
<b>Submitter:</b>	Todd Jones	
<b>Public Comment:</b>	<del>(6) Information on available local Green-e certified (or equivalent) utility green power programs or renewable electricity products, as well as information on how to find other certified renewable energy products using the Green-e website</del> utility programs that purchase a portion of energy from renewable energy providers.	
<b>Reason:</b>	(6) Many utilities will purchase a portion of energy of renewable energy providers. We recommend clarification of this requirement such that information is related to utility programs/products that deliver renewable electricity to customers. We also recommend strengthening this requirement by requiring that this be information about renewable energy products/options available to the building, either from the local utility (e.g. differentiated renewable electricity/green power products/options) or competitive electricity suppliers (if in a deregulated region), or REC products that are available nationally. The Green-e website can be used to find green power options in your area. We also recommend that information be provided specifically about Green-e certified utility green power programs/products, competitive electricity products, and stand-alone REC products.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	TG believes that practice is adequately written as is.	
<b>Task Group Vote:</b>	9-0-0	

PC167 LogID 6059	1001.2 Training of homeowners	Final Formal Action: TBD
<b>Submitter:</b>	Steven Rosenstock	
<b>Public Comment:</b>	1001. 2 Training of <u>initial</u> homeowners. <u>Initial H</u> homeowners are familiarized with the role of occupants in achieving green goals. On-site training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building. These include:	
<b>Reason:</b>	The proposed change will make the requirement more reasonable. Otherwise, as written, the builder will be required to train every homeowner over the 50-100 year life of the home.	
<b>Substantiating Documents:</b>	No	

<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	The building is certified on completion of construction and doesn't require additional training for future homeowners, therefore the change is unnecessary.
<b>Task Group Vote:</b>	9-0-0

<b>PC168 LogID 6159</b>	<b>1001.2 Training of homeowners</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Michelle Desiderio	
<b>Public Comment:</b>	On-site Training is provided to the responsible party(ies) regarding equipment operation and maintenance, control systems, and occupant actions that will improve the environmental performance of the building.	
<b>Reason:</b>	Remove the word "on-site" to allow for virtual or off-site training.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Video training can be just as good and onsite can be too onerous.	
<b>Task Group Vote:</b>	9-0-0	

<b>PC169 LogID 6143</b>	<b>1003.3 Education</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	1003.3 Education. A URL for the National Green Building Standard is included on site signage <u>or builder website (or property website for multi-unit buildings)</u> , and marketing materials for homes certified under the National Green Building Standard.	
<b>Reason:</b>	Production builders and multifamily developers promote NGBS through their websites. An allowance for this promotion in lieu of a building sign should be allowed since the promotion and sharing of the URL is still achieved.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	TG 1 – Disapprove TG 6 – Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	TG 1 – Better visibility when on the building site signage as opposed to website	
<b>Task Group Vote:</b>	TG 1 – 9-0-0 TG 6 – 8-0-0	

<b>PC170 LogID 6212</b>	<b>Chapter 10 Points</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Task Group 1	
<b>Public Comment:</b>	All proposed updates to the point assignments for Chapter 10 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
<b>Reason:</b>	Based on Task Group 1 review of the point assignments for Chapter 10 in accordance with the established process.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	8-0-0	



## Chapter 11: Remodeling

PC171 LogID 6190	11.503.5 Landscape plan	Final Formal Action: TBD
<b>Submitter:</b>	Kent Sovocool	
<b>Public Comment:</b>	<p>The EPA WaterSense Water Budget Tool may be used when determining the maximum percentage of turf areas. For landscapeable areas, the percentage of all turf areas is: <del>The percentage of all turf areas are limited as part of the landscaping.</del></p> <hr/> <p><b>(a)</b> 0 percent. <span style="float: right;"><b>8</b></span></p> <hr/> <p><b>(b)</b> Greater than 0 percent to less than 20 percent <span style="float: right;"><b>6</b></span></p> <hr/> <p><b>(c)</b> 20 percent to less than 40 percent <span style="float: right;"><b>4</b></span></p> <hr/> <p><b>(d)</b> 40 percent to 60 percent <span style="float: right;"><b>2</b></span></p>	
<b>Reason:</b>	<p>There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). The gravest impacts are to section 403.6 (4). This is where OPEI has lobbied for the diminishment of turf limitations as an option for reducing outdoor water demands. In the early stages of drought in 2003, my agency worked closely with a number of stakeholders including the Southern Nevada Home Builders Association (SNHBA) to implement a policy that limited the use of turfgrass for ornamental purposes. Why turfgrass? Our research has shown that lawns receive four times as much water as other water-efficient landscapes that may include trees, shrubs, flowers, vines and other adapted plants. Research in a variety of geographic settings has demonstrated that significant savings are realized where plantings other than turfgrass are used. Locally, these policies not only mitigated water demand, they quelled calls for a moratorium on growth and new construction. These policies have had no impact on quality of life and a positive impact on economic productivity. Both builders and homebuyers are free to plant some turfgrass and to select from a palette of more than 500 other plants for their landscapes. These landscape provisions, more than any other initiative, allowed us to reduce our use by almost 29 billion gallons between 2002 and 2012 while allowing homebuilders to create housing for nearly 500,000 new residents that have located in Southern Nevada since the policy went into effect. Appropriately used, turfgrass can provide benefits, but at a cost. Numerous studies have shown that better adapted plants can provide most or all of the functions of turfgrass with lower demand for water, fertilizer, fuel and maintenance. In many utilities, the benefits of turfgrass carbon sequestration are overwhelmed by the embedded electric energy in just a few inches of irrigation water. The NGBS has thus far provided for the earning of points with landscape plans that have turf limitations. These have been optional and allowed for regional diversification. They have worked successfully in conjunction with turf limits to provide for appropriate reward in water-scarce regions such as ours. While SNWA certainly is supportive of the WaterSense program and our proposed change continues to highlight it, in regions where there is already policy to limit the use of turfgrass, using the NGBS would necessitate a special set of calculations and assessments at each home being built, yet not change the outcome due to the regulatory environment. This additional difficulty may be a disincentive that results in builders shunning the NGBS in regions where water-scarcity has become a driving force. Our included background material demonstrates that these may occur at local municipal code levels as in southern Nevada well as state levels (California). The NGBS should allow regional flexibility by allowing builders to use such already requisite approaches while highlighting the WaterSense Water Budget Tool. It should appropriately incentivize and reward builders for doing so. And just doing the calculation is insufficient. This was obviously not the intent as per the original language. We want to assure that the work is actually done, something that may have unknowingly occurred in the standard development process. Our proposal addresses both these deficiencies. Finally, a number of point modifications have occurred that significantly reduce the emphasis on water efficiency in landscape design that SNWA's proposal counters. Good landscape design is crucial to water efficiency and it does involve real on the ground enhancements. It should rank highly in points-based systems thus the reallocation of points to 403.6 (4).</p>	

<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Pending additional corrected language from Mr. Sovocool.
<b>Task Group Vote:</b>	6-0-0

PC172 LogID 6191	11.503.5 Landscape plan	Final Formal Action: TBD
<b>Submitter:</b>	Kent Sovocool	
<b>Public Comment:</b>	<p><del>(3) Turfgrass is integrated with maintenance tolerant, non-invasive flowering herbaceous plants in an amount to achieve not less than 10% of the groundcover. Plants should typically flower at less than 6 inches in height.</del></p> <p>To improve pollinator habitat, at least 10% of planted areas are composed of non-invasive flowering and nectar producing plant species.</p>	
<b>Reason:</b>	<p>There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these is the introduction of a new concept which the proponent informally refers to as the “bee lawn” which draws upon research that has found that while a lawn composed of turfgrass provides only detrimental impacts to bee colonies, a lawn infested with flowering herbaceous plants can provide more benefits (though not at the levels of native vegetation). To this end OPEI suggests rewarding intentionally enhancing lawns in this way. But that is misleading as, in order to get the points, the major negative, putting in a monoculture composed of turfgrass, has to also happen. Again, the lawn itself is only detrimental to bees. Furthermore, a careful review shows only certain species can be facilitated by the limited plantings that can be maintained in a lawn, especially given most people mow their lawns to 4 inches or less. Research by the University of Kentucky has demonstrated that diversity of bee species declines precipitously where turfgrass is present and indeed there are even programs devoted to converting turfgrass areas to pollinator habitat. It is counterintuitive and highly strategic on OPEI’s part to attempt to promote a “bee lawn” as part of a sustainability initiative and it would be terrible to see the committee endorse the concept even as modified in prior deliberation. What we need are more flowering and nectar producing plants. SNWA’s proposal presents a way to do this with alternative plantings in no greater amounts that OPEI’s proposal but that is scientifically justifiable.</p>	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	Not adequate information on nectar producing plans and potential water demands by climate zone.	
<b>Task Group Vote:</b>	6-0-0	

PC173 LogID 6192	11.503.5 Landscape plan	Final Formal Action: TBD
<b>Submitter:</b>	Kent Sovocool	
<b>Public Comment:</b>	<p><del>(4) — EPA WaterSense Water Budget Tool is used to determine the maximum percentage of turf areas.</del></p>	
<b>Reason:</b>	<p>There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). The gravest impacts are to section 403.6 (4). This is where OPEI has lobbied for the diminishment of turf limitations as an option for reducing outdoor water demands. In the early stages of drought in 2003, my agency worked closely with a number of stakeholders including the Southern Nevada Home Builders Association (SNHBA) to implement a policy that limited the use of turfgrass for ornamental purposes. Why turfgrass? Our research has shown that lawns receive four times as much water as other water-efficient landscapes</p>	

	<p>that may include trees, shrubs, flowers, vines and other adapted plants. Research in a variety of geographic settings has demonstrated that significant savings are realized where plantings other than turfgrass are used. Locally, these policies not only mitigated water demand, they quelled calls for a moratorium on growth and new construction. These policies have had no impact on quality of life and a positive impact on economic productivity. Both builders and homebuyers are free to plant some turfgrass and to select from a palette of more than 500 other plants for their landscapes. These landscape provisions, more than any other initiative, allowed us to reduce our use by almost 29 billion gallons between 2002 and 2012 while allowing homebuilders to create housing for nearly 500,000 new residents that have located in Southern Nevada since the policy went into effect. Appropriately used, turfgrass can provide benefits, but at a cost. Numerous studies have shown that better adapted plants can provide most or all of the functions of turfgrass with lower demand for water, fertilizer, fuel and maintenance. In many utilities, the benefits of turfgrass carbon sequestration are overwhelmed by the embedded electric energy in just a few inches of irrigation water. The NGBS has thus far provided for the earning of points with landscape plans that have turf limitations. These have been optional and allowed for regional diversification. They have worked successfully in conjunction with turf limits to provide for appropriate reward in water-scarce regions such as ours. While SNWA certainly is supportive of the WaterSense program and our proposed change continues to highlight it, in regions where there is already policy to limit the use of turfgrass, using the NGBS would necessitate a special set of calculations and assessments at each home being built, yet not change the outcome due to the regulatory environment. This additional difficulty may be a disincentive that results in builders shunning the NGBS in regions where water-scarcity has become a driving force. Our included background material demonstrates that these may occur at local municipal code levels as in southern Nevada well as state levels (California). The NGBS should allow regional flexibility by allowing builders to use such already requisite approaches while highlighting the WaterSense Water Budget Tool. It should appropriately incentivize and reward builders for doing so. And just doing the calculation is insufficient. This was obviously not the intent as per the original language. We want to assure that the work is actually done, something that may have unknowingly occurred in the standard development process. Our proposal addresses both these deficiencies. Finally, a number of point modifications have occurred that significantly reduce the emphasis on water efficiency in landscape design that SNWA's proposal counters. Good landscape design is crucial to water efficiency and it does involve real on the ground enhancements. It should rank highly in points-based systems thus the reallocation of points to 403.6 (4).</p>
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Keep chapter 11 consistent with rest of standard and decisions made at last committee meeting.
<b>Task Group Vote:</b>	6-0-0

<b>PC174 LogID 6126</b>	<b>11.503.5 Landscape plan</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	Blaine Wilkins	
<b>Public Comment:</b>		
<b>Reason:</b>	<p>The third item seems incompatible with this document. This is a design standard, but this proposed credit requires long-term care and maintenance for it to have any environmental benefit. I know of few homeowners who would maintain such a lawn as is described here. In my experience, a homeowner will apply -- or ask a landscaping service to apply -- weed killer to short flowering plants in their lawn. This practice may be workable if a homeowner elects to do it himself. I recommend either deleting this or adding language that makes these points only applicable if those who already or will live in the building specifically request it.</p>	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		

<b>Task Group Reason:</b>	This practice resides in the remodeling chapter and the homeowner is most likely aware and actively selected to have this practice implemented.
<b>Task Group Vote:</b>	6-0-0

<b>PC175 LogID 6193</b>	<b>11.505.1 Driveways and parking areas</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Kent Sovocool	
<b>Public Comment:</b>	<b>4)</b> <del>Vegetative paving systems</del> <u>Water permeable surfaces</u> are utilized to reduce the footprint of surface driveways, fire_lanes, streets or parking areas.	
	<b>(a)</b> 10 % to less than 25%	<b>1</b>
	<b>(b)</b> 25% to 75%	<b>2</b>
	<b>(c)</b> greater than 75%	<b>3</b>
	<b>4)</b> <del>Vegetative paving systems</del> <u>Water permeable surfaces</u> are utilized to reduce the footprint of surface driveways, fire_lanes, streets or parking areas.	
	<b>(a)</b> 10 % to less than 25%	<b>1</b>
	<b>(b)</b> 25% to 75%	<b>2</b>
	<b>(c)</b> greater than 75%	<b>3</b>
<b>Reason:</b>	There are a number of proposed changes to Section 403.6 that are detrimental to the NGBS in terms of reducing the integrity of intent and the breadth of adoptability. Some of these apparently have their genesis from a proposal from the Outdoor Power Equipment Institute (OPEI). One of these would promote vegetative paving systems for driveways, fire-lanes, streets, and parking areas. Any permeable shaded area though can provide similar benefits without the enormous costs in terms of water resources for irrigation of such areas. This is obviously an inappropriate measure for arid areas. SNWA's change will allow builders in such areas to provide for the infiltration benefits without the potential resource challenges that would otherwise make this item unobtainable.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	6-0-0	

<b>PC176 LogID 6152</b>	<b>11.605.2 Construction waste management plan</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	<b>11.605.2 Construction waste management plan.</b> ...diverting, through <u>methods such as reuse, salvage, or recycling or manufacturer reclamation</u> , a minimum of 50 percent (by weight) of nonhazardous construction and demolition <u>waste materials</u> from disposal <u>in landfills and combustion, excluding energy and material recovery</u> . For this practice, land clearing debris is not considered construction waste. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging.	
	For remodeling projects or demolition of an existing facility <del>by a EPA certified E-Waste recycling facility</del> , the waste management plan includes the recycling of 95% of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards), <u>by a third-party certified E-Waste recycling facility.</u>	
	<b>Exceptions:</b>	



	<p><del>Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations.</del></p> <p>2) A recycling facility(traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.</p>
<b>Reason:</b>	<p>The section is instructing stakeholders to divert construction and demolition materials from disposal. Commonly, such language would clarify that the materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. (note that we are referring to “combustion” rather than “incineration;” although frequently misunderstood, combustion is a broader activity that does include energy and material recovery, but incineration is done so as to treat or resize waste for the purpose of disposal and does not include energy or material recovery; because of the common misunderstanding, we do recommend acknowledging energy recovery, but including it under the broader, correct activity, i.e., combustion.) Further, the list of methods that count toward the diversion practice is very limited. Other types of diversion, such as through manufacturer reclamation, are feasible and often practiced. That said, even with the addition of manufacturer reclamation, the list of diversion methods would not be complete and should be presented as such. The C&amp;D debris that gets diverted is a resource (material) and not waste and should be referred to accordingly. There appears to be an error in the sentence structure for the paragraph dealing with e-waste; it is inconsistent with the language in Section 605.1; this should be corrected. It is also unclear what is intended by an “EPA-certified” e-waste recycling facility; EPA does not “certify” e-waste recycling facilities. Currently, the Responsible Recycling Standard (R2) and the e-Stewards standard are the two available e-waste certification programs to which facilities may be certified. See: <a href="http://www.sustainableelectronics.org/">http://www.sustainableelectronics.org/</a> and <a href="http://e-stewards.org/">http://e-stewards.org/</a> Finally, if the intent of the “Exceptions” section is to indicate specific circumstances when the practice does not apply, or to acknowledge situations when it cannot be met by the person seeking the points, then it is unclear why the first item is listed. How is stating “Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations,” an Exception? (We would argue this is an exclusion from the calculation, not an exception to the practice.) The second item in the Exceptions, “A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite,” implies that a recycling facility not available within 50 miles would preclude the person from achieving the points available through the practice. Solution: Introduce that materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. Broaden the list of diversion methods indicating that the list is not all-inclusive. Refer to construction and demolition materials and not waste. Replace “EPA-certified” e-waste recycling facility with “third-party certified” e-waste recycling facility. Delete the first item listed under Exceptions.</p>
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	<p><b>11.605.2 Construction waste management plan.</b> ...diverting, through <u>methods such as reuse, salvage, or recycling or manufacturer reclamation</u>, a minimum of 50 percent (by weight) of nonhazardous construction and demolition <u>waste materials</u> from disposal <u>in landfills and combustion, excluding energy and material recovery</u>. For this practice, land clearing debris is not considered construction waste. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging.</p> <p>For remodeling projects or demolition of an existing facility <del>by a EPA certified E-Waste recycling facility</del>, the waste management plan includes the recycling of 95%of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards), <u>by a third-party certified E-Waste recycling facility.</u></p>
<b>Task Group Reason:</b>	The waste materials from soil and subgrade excavation have different characteristics than typical demolition waste and should not be included in calculations.
<b>Task Group Vote:</b>	6-0-0

<b>PC177 LogID 6170</b>	<b>11.610.1.1 Whole-building life cycle assessment</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Todd Jones	

<b>Public Comment:</b>	(b) <del>Global warming potential</del> <b>Direct and indirect greenhouse gas emissions</b>
<b>Reason:</b>	(1)(b) "Global warming potential" is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	"global warming potential" is a defined term in ASTM E-2921.
<b>Task Group Vote:</b>	6-0-0

<b>PC178 LogID 6153</b>	<b>11.610.1.1 Whole-building life cycle assessment</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	<p><b>11.610.1.1 Whole-building life cycle assessment.</b> A whole-building LCA is performed in conformance with ASTM E-2921 using SO14044 compliant life cycle assessment and data compliant with ISO 14044 or other recognized standards.</p> <p>Execute LCA at the whole-building level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E-2921. The assessment criteria includes the following environmental impact categories:</p> <ul style="list-style-type: none"> <li>a. Primary energy use</li> <li>b. Global warming potential</li> <li>c. Acidification potential</li> <li>d. Eutrophication potential</li> <li>e. Ozone depletion potential</li> <li>f. Smog potential</li> <li>g. <u>Material Use</u></li> <li>h. <u>Waste</u></li> </ul> <p>Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using EPA NERC electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the Sub-Region in which the building is located.</p> <p>Execute full LCA, including use and end-of-life phases. <del>For the use phase, calculate through calculation of operating energy impacts (c) – (f) using EPA NERC regional emissions factors [provide full reference to NERC document or provide factor tables].</del> <u>For the use phase, also include impacts associated with material replacements.</u></p>	
<b>Reason:</b>	Using less material and recovering more is crucial to our economic and environmental future. Whether less material is used and more recovered over the life cycle of the designed building should be evaluated against a reference building. To that end, material use and waste impact categories should be included in life-cycle assessments. In addition, the "full" life cycle assessment should include all life cycle phases, including use and end-of-life phases. While the NGBS-proposed language emphasizes that the assessment should include the use phase, it omits mentioning the end-of-life phase. Finally, the language for the use phase indicates that impacts related to energy use should be evaluated, but remains silent on the need to evaluate impacts associated with the replacement of materials. Solution: Add the material use and waste impact categories to the assessment criteria. Emphasize that the	

	boundary of the assessment should include the end-of-life phase. Emphasize that the assessment of the use phase should include the analysis of impacts associated with the replacement of materials.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Adds significant responsibility to contractor for minimal potential benefit.
<b>Task Group Vote:</b>	6-0-0

<b>PC179 LogID 6171</b>	<b>11.610.1.2.1 Product LCA</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Todd Jones	
<b>Public Comment:</b>	Product LCA. A product with improved environmental impact measures compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment <del>are selected from</del> <u>include</u> the following:  (b) <del>Global warming potential</del> <u>Direct and indirect greenhouse gas emissions (associated with product manufacturing and delivery)</u>	
<b>Reason:</b>	“Global warming potential” is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the product to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the product’s manufacturing and delivery. We suggest clarifying this.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	“global warming potential” is a defined term in ASTM E-2921.	
<b>Task Group Vote:</b>	6-0-0	

<b>PC180 LogID 6172</b>	<b>11.610.1.2.2 Building assembly LCA</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Todd Jones	
<b>Public Comment:</b>	(b) <del>Global warming potential</del> <u>Direct and indirect greenhouse gas emissions</u>	
<b>Reason:</b>	(b) “Global warming potential” is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the building assembly to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions associated with the building assembly. We suggest clarifying this.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Disapprove	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>	“global warming potential” is a defined term in ASTM E-2921.	
<b>Task Group Vote:</b>	6-0-0	

<b>PC181 LogID 6200</b>	<b>11.901.2.2 Solid fuel-burning appliances are not installed</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Joe Seymour	
<b>Public Comment:</b>	Fireplaces, woodstoves, pellet stoves, or masonry heaters are not installed. <del>7</del> Change: <del>7</del> to <del>7</del> and replace with <b>0</b>	

<b>Reason:</b>	"Remove Point Total for Section 11.901.2.2" Reason: Chapter 11, Remodeling, section 11.901.2.2 repeats this inconsistency from 901.2.2 in providing the highest number of points, 7 points, for the non-installation of woodstoves, pellet stoves and masonry heaters. To repeat, similar to 901.2.1, 11.901.2.1 awards various point totals for code-compliant wood-burning stoves and heaters, whereas section 11.901.2.2, like 901.2.2, awards the highest total, seven points for non-installation of woodstoves, pellet stoves and masonry heaters. These adjoining sections, taken together, provide unclear guidance on installing clean, highly efficient wood-burning technologies. As mentioned before, many wood-burning appliances achieve the highest efficiencies available for renewable heating. Furthermore, maintaining different point classes for installation and non-installation make no sense when taking in consideration widely-available, clean, wood-burning technologies that meet NGBS principles.
<b>Substantiating Documents:</b>	Yes, substantiating documents can be found at <a href="http://homeinnovation.com/ngbs">homeinnovation.com/ngbs</a> under the Public Comments section
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Clarification is needed for "clean, highly efficient wood-burning technologies"
<b>Task Group Vote:</b>	6-0-0

<b>PC182 LogID 6138</b>	<b>11.901.7 Floor materials</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	Points are awarded for every 10% of conditioned floor space using one of the below materials, <u>up to a maximum of 6 points</u> :	
<b>Reason:</b>	The new language states: "Points are awarded for every 10% of conditioned floor space using one of the below materials:" yet the number of points available (6) indicates that no points are available past 60%. We feel that for this credit that it is appropriate to leave six as the maximum number of points available and suggest language to clarify this in the provision.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	6-0-0	

<b>PC183 LogID 6031</b>	<b>11.902.1.5 Fenestration cross-ventilation</b>	<b>Final Formal Action: TBD</b>
<b>Submitter:</b>	Roger L. LeBrun	
<b>Public Comment:</b>	11.902.1.5 [identical to ID 6030 for 902.1.5] Fenestration in spaces other than those identified in <u>11.902.1.1</u> through <u>11.902.1.4</u> are designed for <u>stack effect or cross-ventilation</u> in accordance with all of the following:  (1) Operable windows, <u>skylights</u> and sliding glass doors with a total area of at least 15 percent of the conditioned floor area are provided.  (2) Insect screens are provided for all operable windows, <u>skylights</u> and sliding glass doors.  (3) <u>Wherever practical, A an operable skylight is installed, and a minimum of two operable windows or sliding glass doors are placed in adjacent or opposite walls. If there is only one wall surface in that space exposed to the exterior, the minimum windows or sliding glass doors may be on the same wall.</u>	
<b>Reason:</b>	Stack effect natural ventilation is much more effective than cross-ventilation. It should be provided wherever cross-ventilation is not possible, and is preferable to cross-ventilation whenever practical.	
<b>Substantiating Documents:</b>	No	

<b>Task Group Recommendation:</b>	Accept as Modified
<b>Modification of Public Comment:</b>	<p><i>Revise Public Comment as Follows (changes shown in red):</i></p> <p>11.902.1.5 [identical to ID 6030 for 902.1.5]  Fenestration in spaces other than those identified in <u>11.902.1.1</u> through <u>11.902.1.4</u> are designed for <u>stack effect or cross-ventilation</u> in accordance with all of the following:</p> <p>(1) Operable windows, <u>skylights</u> and sliding glass doors with a total area of at least 15 percent of the conditioned floor area are provided.</p> <p>(2) Insect screens are provided for all operable windows, <u>skylights</u> and sliding glass doors.</p> <p>(3) <del>Wherever practical, An operable skylight is installed, and a</del> minimum of two <u>operable</u> windows or sliding glass doors are placed in adjacent or opposite walls. If there is only one wall surface in that space exposed to the exterior, the minimum windows or sliding glass doors may be on the same wall.</p>
<b>Task Group Reason:</b>	Task Group does not want to make skylights mandatory.
<b>Task Group Vote:</b>	6-0-0

## Chapter 12: Remodeling of Functional Areas

<b>PC184</b> LogID 6154	<b>12.1(A).605.1 Construction waste management plan</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Susan Gitlin
<b>Public Comment:</b>	<p><b>12.1(A).605.1 Construction waste management plan.</b> A construction waste management plan <del>that includes targets for diversion</del> is developed, posted at the jobsite, and implemented- <u>Diverting, through methods such as reuse, salvage, recycling or manufacturer reclamation, a targeted amount (by weight) of nonhazardous construction and demolition materials from disposal in landfills and combustion, excluding energy and material recovery.</u></p> <p><u>For remodeling projects, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) by a third-party certified E-Waste recycling facility.</u></p> <p><u>Exception:</u></p> <p><u>A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.</u></p>
<b>Reason:</b>	Construction waste management targets may be constrained in the remodeling of functional areas because of the sizes of projects. However, beyond the targeted diversion rate, it is not clear why parameters introduced in construction waste management practices in Chapters 6 and 11 would not apply in the case of functional areas. We suggest including those parameters.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	6-0-0

<b>PC185</b> LogID 6155	<b>12.1(A).610.1.1 Functional area life cycle assessment</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Susan Gitlin
<b>Public Comment:</b>	<p><b>12.1(A).610.1.1 Functional area life cycle assessment.</b> An LCA is performed in conformance with ASTM E-2921 for an entire functional area using ISO14044 compliant a life cycle assessment.</p> <p>Execute LCA at the functional_area level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E-2921. The assessment criteria includes the following environmental impact categories:</p> <ol style="list-style-type: none"> <li>a. Primary energy use</li> <li>b. Global warming potential</li> <li>c. Acidification potential</li> <li>d. Eutrophication potential</li> <li>e. Ozone depletion potential</li> <li>f. Smog potential</li> <li>g. <u>Material Use</u></li> <li>h. <u>Waste</u></li> </ol> <p>Execute LCA on regulated loads throughout the building operations life cycle stage. Conduct simulated energy performance analyses in accordance with Section 702.2.1 ICC IECC analysis (IECC Section 405) in establishing the comparative performance of final versus reference building designs. Primary energy use savings and global warming potential avoidance from simulation analyses results are determined using</p>

	EPA NERC electricity generation and other fuels energy conversion factors and electricity generation and other fuels emission rates for the Sub-Region in which the building is located.  Execute full LCA, including use and end-of-life phases. For the use phase, calculate through calculation of operating energy impacts (c) – (f) using EPA NERC regional emissions factors [provide full reference to NERC document or provide factor tables]. For the use phase, also include impacts associated with material replacements.
<b>Reason:</b>	Using less material and recovering more is crucial to our economic and environmental future. Whether less material is used and more recovered over the life cycle of the designed building should be evaluated against a reference building. To that end, material use and waste impact categories should be included in life-cycle assessments. In addition, the “full” life cycle assessment should include all life cycle phases, including use and end-of-life phases. While the NGBS-proposed language emphasizes that the assessment should include the use phase, it omits mentioning the end-of-life phase. Finally, the language for the use phase indicates that impacts related to energy use should be evaluated, but remains silent on the need to evaluate impacts associated with the replacement of materials. Solution: Add the material use and waste impact categories to the assessment criteria. Emphasize that the boundary of the assessment should include the end-of-life phase. Emphasize that the assessment of the use phase should include the analysis of impacts associated with the replacement of materials.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	Adds significant responsibility to contractor for minimal potential benefit.
<b>Task Group Vote:</b>	6-0-0

<b>PC186 LogID 6175</b>	<b>12.1(A).610.1.1 Functional area life cycle assessment</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Todd Jones
<b>Public Comment:</b>	(b) <del>Global warming potential</del> <u>Direct and indirect greenhouse gas emissions</u>
<b>Reason:</b>	(1)(b) “Global warming potential” is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the functional area to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	“global warming potential” is a defined term in ASTM E-2921.
<b>Task Group Vote:</b>	6-0-0

<b>PC187 LogID 6176</b>	<b>12.1(A).610.1.2 Life cycle assessment for a product or assembly</b> <i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Todd Jones
<b>Public Comment:</b>	(b) <del>Global warming potential</del> <u>Direct and indirect greenhouse gas emissions</u>
<b>Reason:</b>	12.1(A).610.1.2(1)(b) and 12.1(A).610.1.2(2)(b) “Global warming potential” is a commonly-used term referring to the heat-trapping capacity of a particular gas. However, it does not appear to have that meaning in this context, which may be confusing for users. In this context, it appears to mean the potential of the product or assembly to contribute to global warming, a metric of which could be direct and indirect GHG/CO2e emissions. We suggest clarifying this.
<b>Substantiating Documents:</b>	No

<b>Task Group Recommendation:</b>	Disapprove
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	“global warming potential” is a defined term in ASTM E-2921.
<b>Task Group Vote:</b>	6-0-0

<b>PC188 LogID 6141</b>	<b>12.5.3 Bathroom</b>	<b><i>Final Formal Action: TBD</i></b>
<b>Submitter:</b>	Susan Gitlin	
<b>Public Comment:</b>	When the space to be converted includes a bathroom, the remodel shall also comply with the practices in Section 12.3.	
<b>Reason:</b>	There is a typographical error in this section that is corrected in the proposed resolution below.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	6-0-0	



## Chapter 13: Referenced Documents

PC189 LogID 6115	1302 Referenced Documents	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	ENERGY STAR Certified Homes, Version 3(Rev. 0708) HERS Index Target Procedure for National Program Requirements	
<b>Reason:</b>	Update ENERGY STAR for Homes to current version, Version 3 (revision 8).	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	11-0-1	

PC190 LogID 6116	1302 Referenced Documents	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	aaron gary	
<b>Public Comment:</b>	Insert reference for: <u>ENERGY STAR Multifamily Highrise, Version 1 (Rev 03).</u> - January 2015 - 701.1.3	
<b>Reason:</b>	The Standard awards credit for ENERGY STAR Multifamily High-rise certification in Section 701.1.4 but the appropriate documents are not referenced in Chapter 13.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>	11-0-1	

PC191 LogID 6214	Chapter 13 Referenced Documents	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Task Groups	
<b>Public Comment:</b>	All proposed updates to the Referenced Documents for Chapter 13 as shown in Task Group Proposed Referenced Document Changes to 2015 NGBS Draft Standard.	
<b>Reason:</b>	Based on Task Group review of the Referenced Documents for Chapter 13 in accordance with the established process.	
<b>Substantiating Documents:</b>	No	
<b>Task Group Recommendation:</b>	All Task Groups - Accept	
<b>Modification of Public Comment:</b>		
<b>Task Group Reason:</b>		
<b>Task Group Vote:</b>		

PC192 LogID 6215	Chapter 11 Points	<i>Final Formal Action: TBD</i>
<b>Submitter:</b>	Task Group 7	
<b>Public Comment:</b>	Points in Chapter 11 Remodeling are updated to be consistent with all proposed updates to the point assignments for Chapters 5-10 as shown in Task Group Proposed Point Changes to 2015 NGBS Draft Standard.	
<b>Reason:</b>	Based on Task Group 7 review of the point assignments for Chapter 11 in accordance with the established process.	

<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	Accept
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	6-0-0

## Held Comments

Public Comments that proposed changes to a section or part of the Draft Standard that was not changed during the development of the 2015 NGBS shall be reported as Held. These comments are identified with a comment number prefix of "H". In addition, the scope, intent, purpose, and title of the standard are under the purview of the Executive Standards Council. Please refer to the Procedures for information on submitting changes to these sections. At the discretion of the submitter, a Held comment can be retained and be processed as a proposed change during the next revision of the standard. The submitter must inform Home Innovation Research Labs of this request or the comment is considered discharged.

<b>H001</b>	<b>LogID 6033</b>	<b>400.0 Intent (Site Design and Development)</b>	<b><i>Final Formal Action: Held</i></b>
<b>Submitter:</b>	David S. Collins, FAIA		
<b>Public Comment:</b>	<u>Sites located within 100-year flood plains shall not be permitted to use this rating system.</u>		
<b>Reason:</b>	What about eliminating eligibility of sites located within 100-year flood plains, ? Add the following text:		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>			
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			
<b>Task Group Vote:</b>			

<b>H002</b>	<b>LogID 6161</b>	<b>606.3 Manufacturing energy</b>	<b><i>Final Formal Action: Held</i></b>
<b>Submitter:</b>	Todd Jones		
<b>Public Comment:</b>	<u>Materials manufactured using renewable energy for a minimum of 33 percent of the primary manufacturing process energy. Non-electric energy used in manufacturing materials must be derived from (1) renewable sources, or (2) combustible waste sources, or (3) renewable energy credits (RECs) are used for major components of the building. Electricity used in manufacturing materials must be paired with renewable energy certificates (RECs), which must be retired. The building may purchase RECs on behalf of the building material supplier where the supplier has not purchased/used renewable electricity, with RECs, for manufacturing of building materials. Green-e certification (or equivalent) is required [or recommended] for renewable electricity purchases and materials manufactured using renewable electricity.</u>		
<b>Reason:</b>	This requirement refers to renewable energy use in manufacturing of building materials, and therefore may refer to use of both electricity and non-electric energy in manufacturing. Currently, the options 1-3 are not differentiated as applying to either electricity or non-electric energy use. However, since RECs are required to claim use of renewable electricity in all cases, including from on-site renewable generation equipment, we suggest differentiating between electricity used in manufacturing, in which case RECs are required, and non-electric energy used in manufacturing. It is also not clear that in option 3, RECs are being purchased by the building to be applied to the building materials, i.e. its supply chain, and not to the building's own electricity usage, and that RECs/RE may also be purchased or used by the supplier of the building materials. Finally, we recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>			
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			
<b>Task Group Vote:</b>			

<b>H003</b>	<b>LogID 6024</b>	<b>701.4.3.4 Fenestration air leakage</b>	<b><i>Final Formal Action: Held</i></b>
<b>Submitter:</b>	Roger L. LeBrun		

<b>Public Comment:</b>	Strike the last sentence:  <b>701.4.3.</b>  <b>701.4.3.4 Fenestration air leakage.</b>  Windows, skylights and sliding glass doors have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m <sup>2</sup> ), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m <sup>2</sup> ), when tested in accordance with NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled. <del>This practice does not apply to site-built windows, skylights, and doors.</del>
<b>Reason:</b>	A green code should not leave a gaping hole by exempting "site-built" windows, skylights and doors. Only rated products meeting the mandatory requirements are acceptable, no matter how they are built, otherwise what does mandatory really mean?
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	

<b>H004</b>	<b>LogID 6203</b>	<b>701.4.3.4 Fenestration air leakage</b>	<b>Final Formal Action: Held</b>
<b>Submitter:</b>	Craig Conner & Howard Wiig		
<b>Public Comment:</b>	701.4.3.4 Fenestration air leakage. add: <u>Jalousie windows shall have an air infiltration rate of no more than 1.3 cfm per square foot.</u>		
<b>Reason:</b>	Jalousie windows are tropical windows made to admit breezes. Sealing them tight is expensive and non-sensical.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>			
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			
<b>Task Group Vote:</b>			

<b>H005</b>	<b>LogID 6027</b>	<b>703.7.3 Passive cooling design</b>	<b>Final Formal Action: Held</b>
<b>Submitter:</b>	Roger L. LeBrun		
<b>Public Comment:</b>	703.7.3 (3)  Windows and/or venting skylights are located to facilitate cross <u>and stack effect</u> ventilation.		
<b>Reason:</b>	The Standard should mention stack effect ventilation. It is more efficient than a whole house fan, particularly in two story dwellings.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>			
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			

<b>Task Group Vote:</b>	
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<b>H006</b>	<b>LogID 6029</b>	<b>703.7.4 Passive solar heating design</b>	<b>Final Formal Action: Held</b>
<b>Submitter:</b>	Roger L. LeBrun		
<b>Public Comment:</b>	Additional glazing, no greater than 12 percent, is permitted on the south wall. This additional glazing is in accordance with the requirements of Section 703.7.1. <u>For every square foot of roof glazing on the south-facing roof slope, three square feet of allowed wall glazing is omitted.</u>		
<b>Reason:</b>	Skylights are more efficient solar heaters than windows.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>			
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			
<b>Task Group Vote:</b>			

<b>H007</b>	<b>LogID 6165</b>	<b>706.2 Renewable energy service plan</b>	<b>Final Formal Action: Held</b>
<b>Submitter:</b>	Todd Jones		
<b>Public Comment:</b>	(1) Builder selects a renewable energy service plan provided by the local electrical utility for interim (temporary) electric service, <u>or purchases renewable energy certificates (RECs) to cover electricity used.</u> The builder's local administrative office has renewable energy service <u>or has otherwise been paired with RECs.</u> <u>Green-ecertification (or equivalent) is required [or recommended] for renewable electricity purchases.</u>		
<b>Reason:</b>	(1) Depending on the location of the building site, the local electric utility may not offer a renewable energy service product/option/plan, or may not offer one for interim (temporary) electric service. Therefore, we suggest allowing the builder to procure renewable energy certificates (RECs), which are available everywhere, to meet this requirement. We also recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified. Utility green power programs/products, competitive electricity products, and stand-alone REC products can all be Green-e certified.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>			
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			
<b>Task Group Vote:</b>			

<b>H008</b>	<b>LogID 6168</b>	<b>1002.2 Operations manual</b>	<b>Final Formal Action: Held</b>
<b>Submitter:</b>	Todd Jones		
<b>Public Comment:</b>	(4) Information on opportunities to purchase <u>Green-ecertified (or equivalent)</u> renewable energy from local utilities or national green power providers and information on utility and tax incentives for the installation on on-site renewable energy systems.		
<b>Reason:</b>	(4) We recommend that information be provided specifically about Green-e certified utility and national green power products, to ensure that they are high quality and independently verified. The Green-e website is a good resource for finding local and national green power options.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>			
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			

<b>Task Group Vote:</b>	
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<b>H009</b>	<b>LogID 6173</b>	<b>11.1001.1 Homeowner's manual is provided</b>	<b>Final Formal Action: Held</b>
<b>Submitter:</b>	Todd Jones		
<b>Public Comment:</b>	Information on available local <u>Green-ecertified (or equivalent) utility green power programs or renewable electricity products</u> , as well as information on how to find other certified renewable energy products using the <u>Green-e website</u> <del>utility programs that purchase a portion of energy from renewable energy providers.</del>		
<b>Reason:</b>	(6) Many utilities will purchase a portion of energy of renewable energy providers. We recommend clarification of this requirement such that information is related to utility programs/products that deliver renewable electricity to customers. We also recommend strengthening this requirement by requiring that this be information about renewable energy products/options available to the building, either from the local utility (e.g. differentiated renewable electricity/green power products/options) or competitive electricity suppliers (if in a deregulated region), or REC products that are available nationally. The Green-e website can be used to find green power options in your area. We also recommend that information be provided specifically about Green-e certified utility green power programs/products, competitive electricity products, and stand-alone REC products.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>			
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			
<b>Task Group Vote:</b>			

<b>H010</b>	<b>LogID 6174</b>	<b>11.1002.2 Operations manual</b>	<b>Final Formal Action: Held</b>
<b>Submitter:</b>	Todd Jones		
<b>Public Comment:</b>	Information on opportunities to purchase <u>Green-ecertified (or equivalent) renewable energy from local utilities or national green power providers</u> and information on utility and tax incentives for the installation on on-site renewable energy systems.		
<b>Reason:</b>	(4) We recommend that information be provided specifically about Green-e certified utility and national green power products, to ensure that they are high quality and independently verified. The Green-e website is a good resource for finding local and national green power options.		
<b>Substantiating Documents:</b>	No		
<b>Task Group Recommendation:</b>			
<b>Modification of Public Comment:</b>			
<b>Task Group Reason:</b>			
<b>Task Group Vote:</b>			

<b>H011</b>	<b>LogID 6169</b>	<b>11.606.3 Manufacturing energy</b>	<b>Final Formal Action: Held</b>
<b>Submitter:</b>	Todd Jones		
<b>Public Comment:</b>	Materials manufactured using <u>renewable energy for</u> a minimum of 33 percent of the primary manufacturing process energy. <u>Non-electric energy used in manufacturing materials must be derived from (1) renewable sources, or (2) combustible waste sources, or (3) renewable energy credits (RECs).</u> <u>Electricity used in manufacturing materials must be paired with renewable energy certificates (RECs), which must be retired. The building may purchase RECs on behalf of the building material supplier where the supplier has not purchased/used renewable electricity, with RECs, for manufacturing of building materials.</u>  <u>Green-e certification (or equivalent) is required [or recommended] for renewable electricity purchases and materials manufactured using renewable electricity.</u>		

<b>Reason:</b>	This requirement refers to renewable energy use in manufacturing of building materials, and therefore may refer to use of both electricity and non-electric energy in manufacturing. Currently, the options 1-3 are not differentiated as applying to either electricity or non-electric energy use. However, since RECs are required to claim use of renewable electricity in all cases, including from on-site renewable generation equipment, we suggest differentiating between electricity used in manufacturing, in which case RECs are required, and non-electric energy used in manufacturing. It is also not clear that in option 3, RECs are being purchased by the building to be applied to the building materials, i.e. its supply chain, and not to the building's own electricity usage, and that RECs/RE may also be purchased or used by the supplier of the building materials. Finally, we recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified.
<b>Substantiating Documents:</b>	No
<b>Task Group Recommendation:</b>	
<b>Modification of Public Comment:</b>	
<b>Task Group Reason:</b>	
<b>Task Group Vote:</b>	

## Appendix I – PC097 Modification

**703.2.4** A radiant barrier with an emittance of 0.05 or less is used in the attic. The product is tested in accordance with ASTM C1371 and installed in accordance with the manufacturer's instructions.

**Table 703.2.4  
Radiant Barriers**

Climate Zone	POINTS
1	2
2-3	3
4-5	1
6-8	0

**In climate zones 1-3, a maximum of one point shall be awarded for multi-unit buildings four or more stories in height.**

**703.2.5 Building envelope leakage.** The maximum building envelope leakage rate is in accordance with Table 703.2.5 and whole building ventilation is provided in accordance with Section 902.2.1.

**Table 703.2.5  
Building Envelope Leakage**

Max Envelope Leakage Rate (ACH50)	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
4	1	2	0	0	0	0	0	0
3	2	4	0	0	0	0	0	0
2	3	5	3	4	4	6	8	7
1	4	7	5	7	7	10	15	11

**Where points are awarded in this section, Section 705.5.2.1 points shall not be awarded.**

*Note to staff -- Add opposite note to 705.5.2.1*

**703.2.6.2** The NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) are in accordance with Table 703.2.6.2(a), (b), or (c). Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m<sup>2</sup>) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

**Per Table 703.2.6.2(a) or Table 703.2.6.2(b) or**

**In Table 703.2.6.2 (a) – points in Climate Zone 1 change from zero to one.**



	<p><b>Table 703.2.6.2(c)</b></p> <p><b><u>Points shall be awarded for Multi-unit buildings four or more stories in height at 3 times the value from the corresponding table.</u></b></p>
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<p><b>703.3.1</b> Combination space heating and water heating system (combo system) is installed using either a coil from the water heater connected to an air handler to provide heat for the building or dwelling unit, or a space heating boiler using an indirect-fired water heater. Devices have a <u>minimum</u> combined annual efficiency of 0.80 <u>and a minimum water heating recovery efficiency of 0.87.</u></p>	<p><b>4</b></p>
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**703.3.2** Furnace and/or boiler efficiency is in accordance with one of the following:

(1) Gas and propane heaters:

Add a separate table for multifamily buildings 4 or more stories.

Table 703.3.2(1B)

Gas and Propane Heaters for Multi-unit buildings 4 or more stories

AFUE	Climate Zone							
	1	2	3	4	5	6	7	8
	<b>Points</b>							
≥90% AFUE	0	4	4	8	8	10	11	13
≥92% AFUE	0	4	4	9	10	11	12	14
≥94% AFUE	0	5	5	10	11	12	14	16
≥96% AFUE	0	5	5	12	12	13	15	17
≥98% AFUE	0	6	6	13	13	14	16	18

(3) Gas boiler:

**Table 703.3.2(3)**

**Gas Boiler**

AFUE	Climate Zone							
	1	2	3	4	5	6	7	8
	<b>POINTS</b>							
≥85% AFUE	<b>0</b>	<b>1</b>	<b>1</b>	<b>3<del>2</del></b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>5<del>4</del></b>
≥90% AFUE	<b>4<del>0</del></b>	<b>2<del>1</del></b>	<b>3<del>2</del></b>	<b>5<del>4</del></b>	<b>6</b>	<b>7</b>	<b>9<del>8</del></b>	<b>10<del>6</del></b>
≥94% AFUE	<b>4<del>0</del></b>	<b>2</b>	<b>4<del>3</del></b>	<b>7<del>5</del></b>	<b>8</b>	<b>10<del>9</del></b>	<b>12<del>10</del></b>	<b>14<del>8</del></b>
≥96% AFUE	<b>4<del>0</del></b>	<b>2</b>	<b>4</b>	<b>8<del>6</del></b>	<b>9</b>	<b>12<del>11</del></b>	<b>14<del>12</del></b>	<b>16<del>10</del></b>

**703.3.3** Heat pump heating efficiency is in accordance with Table 703.3.3(1) or Table 703.3.3(2). Refrigerant charge is verified for compliance with manufacturer’s instructions utilizing a method in Section 4.3 of ACCA 5 QI-2010.

**Per Table 703.3.3(1) or Table 703.3.3(2) or Table 703.3.3(3)**

**Table 703.3.3(1)**

**Electric Heat Pump Heating**

Efficiency	Climate Zone					
	1	2	3	4	5	6-8 <sup>a</sup>
	POINTS					
$\geq 8.5$ HSPF (11.5 EER)	0	1	1	2	2	2
$\geq 9.0$ HSPF (12.5 EER)	0	2	4	5	6	10
$\geq 9.5$ HSPF	0	3	7	7	11	18
$\geq 10.0$ HSPF	1	5	10	10	15	26

a. Equipment designed to operate in cold climates is recommended to minimize use of resistance heat when installing a heat pump in Zones 6-8.

**Table 703.3.3(2)**

**Electric Heat Pump Heating for Multi-unit buildings four or more stories in height**

Efficiency	Climate Zone					
	1	2	3	4	5	6-8
	POINTS					
$\geq 8.5$ HSPF (11.5 EER)	0	3	4	8	11	13

a. Equipment designed to operate in cold climates is recommended to minimize use of resistance heat when installing a heat pump in Zones 6-8.

**Table 703.3.3(23)**

**Gas Engine-Driven Heat Pump Heating**

Efficiency	Climate Zone					
	1	2	3	4	5	6-8
	POINTS					
$\geq 1.3$ COP at 47°F	2	7	11	14	16	18

**703.3.4** Cooling efficiency is in accordance with Table 703.3.4(1) or Table 703.3.4(2). Refrigerant charge is verified for compliance with manufacturer's instructions utilizing a method in Section 4.3 of ACCA 5 QI-2010.

**Per Table 703.3.4(1) or Table 703.3.4(2)**

**Table 703.3.4(1)**

**Electric Air Conditioner and Heat Pump Cooling**

Efficiency	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
≥14 SEER (11.5 EER)	0	0	0	0	0	0	0	0
≥15 SEER (12.5 EER)	39	6	3	1	1	1	1	0
≥17 SEER (12.5 EER)	11	9	7	3	3	2	2	0
≥19 SEER (12.5 EER)	19	12	10	6	4	4	4	0
≥21 SEER	26	15	14	8	6	6	5	0

**703.4.1** All space heating is provided by a system(s) that does not include air ducts.

**Per Table 703.4.1**

**Table 703.4.1**

**Ductless heating system**

Climate Zone					
1	2	3	4	5	6-8
POINTS					
0	2	4	6	8	8

**(No points shall be awarded for Multi-unit buildings four or more stories in height.)**

**703.4.2** All space cooling is provided by a system(s) that does not include air ducts.

**Per Table 703.4.2**

**Table 703.4.2**

**Ductless cooling system**

Climate Zone					
1	2	3	4	5	6-8
POINTS					
8	8	4	2	1	0

**(No points shall be awarded for Multi-unit buildings four or more stories in height.)**

**703.4.3** Ductwork is in accordance with all of the following:

- (1) Building cavities are not used as return ductwork.
- (2) Heating and cooling ducts and mechanical equipment are installed within the conditioned building space.
- (3) Ductwork is not installed in exterior walls.

**Per Table  
703.4.3**

**Table 703.4.3**

**Ducts**

Climate Zone					
1	2	3	4	5	6-8
<b>POINTS</b>					
<b>8</b>	<b>10</b>	<b>8</b>	<b>8</b>	<b>8</b>	<b>4</b>

**(No points shall be awarded for Multi-unit buildings four or more stories in height.)**

**703.4.4 Duct Leakage.** The entire central HVAC duct system, including air handlers and register boots, is tested by a third party for total leakage at a pressure differential of 0.1 inches w.g. (25 Pa) and maximum air leakage is equal to or less than 6 percent of the system design flow rate or 4 cubic feet per minute per 100 square feet of conditioned floor area.

**Per Table  
703.4.4**

**Table 703.4.4**

**Duct Leakage**

Ductwork location	Climate Zone					
	1	2	3	4	5	6-8
<b>POINTS</b>						
ductwork <i>entirely outside</i> the building's thermal envelope	4	5	4	3	2	1
ductwork <i>entirely inside</i> the building's thermal envelope	1	1	1	1	1	1
ductwork <i>inside and outside</i> the building's thermal envelope	3	4	3	2	1	1

**(Where duct leakage points are awarded in this section, Section 705.5.2.3 points shall not be awarded.)**

*Note to Staff: Add opposite note to 705.5.2.3*

**703.5.1** Water heater Energy Factor (EF) is in accordance with the following:

(Where multiple systems are used, points awarded based on the system with the lowest efficiency.)

Gas water heating

**Table 703.5.1(1)(a)**  
**Gas Water Heating**

Energy Factor	Climate Zone							
	1	2	3	4	5	6	7	8
	<b>POINTS</b>							
0.67 to <0.80	3	3	2	2	2	2	2	1
≥0.80	4	4	3	<del>2</del> 3	<del>2</del> 3	<del>2</del> 3	<del>2</del> 3	<del>1</del> 2

**Points shall be awarded for Multi-unit buildings at 2 times the value of that stated in Table 703.5.1(1)(a).**

**703.6.1 Hard-wired lighting.** Hard-wired lighting is in accordance with one of the following:

- (3) In multi-unit buildings, common area lighting power density (LPD) is less than 0.51 Watts per square foot.

**TBD-7**