Proposed Changes

May 19, 2014

TG-1: Administration, Compliance, and Operation & Owner Education

Chapter 1: Scope and Administration

Proposal ID TBD	LogID 739	102.1 Applicability
Submitter:	Thomas Culp, Birch Point Consulting LLC	
Requested Action:		
Proposed Change:	**102.1 Applicability.** The provisions of this Standard shall apply to design andconstruction of the residential portion(s) of any building not classified as aninstitutional use or R-1 occupancy in all climate zones. This Standardshall also be used for subdivisions, building sites, and the residentialportions of alterations, additions, renovations, mixed-use residentialbuildings, and historic buildings, where applicable. *or if you don't wish to use occupancy classes,* **102.1 Applicability.** The provisions of this Standard shall apply to design andconstruction of the residential portion(s) of any building not classified as aninstitutional use, hotel, or motel in all climate zones. This Standardshall also be used for subdivisions, building sites, and the residentialportions of alterations, additions, renovations, mixed-use residentialbuildings, and historic buildings, where applicable.	
Reason:	Hotels and Motels. Currently, the standard does not use the same scope for residential buildings as the IECC or ASHRAE. I understand this is from the desire to cover apartment buildings not just below 3 stories. However, the generic term "residential" can be interpreted as also containing hotels and motels, which are R-1 occupancies, although these have very different construction and use than other residential buildings. For this reason, hotels and motels are treated as commercial buildings in the IECC. As just one example, hotels commonly use commercial windows and curtain wall assemblies rather than residential windows in lobby areas, rooms, or both. HVAC and lighting are also very different. My previous comments attempted to address this in the window section by pointing to the commercial sections of the IECC for these types of buildings. They were rejected because the committee felt windows should not be treated differently than the rest, and also stated "Hotels and motels are covered under commercial building." I agree, but since hotels and motels are group R-1, I think this proposed change in the Applicability section helps clarify this.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5278	Other for Chapter 1 (include section number and title below)
Submitter:	Shelly Leonard, Green Space Consultants LLC	
Requested Action:	Add new as follows	
Proposed Change:	101.6 Commentary. The National Green Building Standard(™) Commentary will be released in conjunction with the current ANSI approved National Green Building Standard(™). The Commentary expands on the compliance language in the Standard including scope and administration, compliance methods, and requirements and prescriptions for all chapters within the Standard.	
Reason:	Given that the Commentary is a published companion to the Standard, it should be listed along with referenced documents and appendices and noted in Chapter1, Section 101 General. Since the Commentary provides expanded insight and details related to the intent and implementation of practices in the Standard, it should be released/published at the same time as the corresponding Standard and not several months thereafter.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5047	Other for Chapter 1 (include section number and title below)
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Add new as follows	
Proposed Change:	102.5 Significant Decimals. Values used to determine compliance with minimum or maximum values or for determining point allocations shall be rounded to the same number of decimal places as specified value in the practice.	
Reason:	General industry practice is to round values to the same number of decimal places as in the specification. There is typically uncertainty associated with most values and clarifying how to interpret values would be helpful.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5150	202 Definitions
Submitter:	Stephen J Holzer, eM8s, LLC	
Requested Action:	Add new as follows	
Proposed Change:	**BUILDING INFORMATION MODELING (BIM)** A computer generatedmodel based process that simulates three dimensionalplanning, design, coordination, construction and operations for buildings.	
Reason:	Building Information Modeling (BIM) is a computer generated model based process that simulates planning, design, construction and operations for buildings. It is a single repository for both three-dimensional, two-dimensional, and material properties information that allows data interoperability of all stakeholders to better inform design and construction decisions with the goal of producing the best product possible. This information technology will increase design and construction efficiencies and decrease costs for builders and end users. BIM may also facilitate better communication, collaboration and coordination among building industry professionals and trades working on the same project. Credit should be given to Builders utilizing the open industry standards as defined in the National Building Information Modeling Standard.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5122	202 Definitions
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Add new as follows	
Proposed Change:	High priority natural resources - Mature wildlife habitat, trees, shrubs, and water features that could not be quickly reestablished. Other natural features as identified as environmentally important by a licensed professional.	
Reason:	Without a definition, the interpretation of what is a “High priority” resource worthy of 5 points is open to inconsistent interpretation. The proposed definition certainly needs refinement and is offered only as a starting point.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5123	202 Definitions
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**MINORCOMPONENT.** Building materials or systems that do not meet the definition of a major component but exceed at least 0.1% of the building material cost. ~~that are not considered a major component. (also see Major Component).~~	
Reason:	The current definition allows any material or component earn points as a minor material regardless of how insignificant the usage is. The committee is encouraged to refine the cost percentage threshold.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5124	202 Definitions
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**MAJORCOMPONENT.** 1. All structural members and structural systems. 2. Building materials or systems that are typically applied as a part of over 50%of the surface area of the foundation, wall, floor, ceiling, or roof assemblies excluding vapor barriers, WRB, architectural coatings.	
Reason:	The current definition allows for claiming of the excluded materials as major elements but the impact on resources efficiency of the excluded materials is not the same magnitude as the other materials.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5125	202 Definitions
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**NEWCONSTRUCTION.** Construction of a new building ~~or construction that completely replaces more than 75 percent of an existing building~~.	
Reason:	The remodeling chapter can adequately address renovations that replace more than 75% of an existing building. If replacing 75% of an existing building must follow the new construction criteria it imposes significant burdens with regard to meeting mandatory new construction requirements in any portion of the building that is not being replaced (e.g. it would require digging up the foundation to install drain tile and removing all the existing cladding to install WRB). It is not clear how the 75% is calculated - square footage or something else. Is a gut rehab down to the studs for 100% of the building equal to 75% replacement?	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5126	202 Definitions
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Add new as follows	
Proposed Change:	Terrain Adaptive Architecture – Architecture where the design of the building has been specifically adapted to preserve unique features of the terrain.	
Reason:	This term is not typically understood. The definition should be refined by those knowledgeable in lot design. There has also been confusing in distinguishing 503.2(1) from 503.2(4).	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5263	202 Definitions
Submitter:	Matt Belcher, Verdatek Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**Section 202 Definitions** **FLOOD HAZARD AREA**. The greater of the following two areas: 1. The area within a flood plain subject to a 1-percent or greater chance of flooding in any year. 2. The area designated as a flood hazard area on a community's flood hazard map, or otherwise legally designated. **RESILIENCE.** The ability of buildings to take in the shock of natural disasters and better recover from these events.	
Reason:	With the focus on future enhancement of the model codes to provide for enhanced "Resiliant" construction, It is an opportunity to include reference in this "above code" standard to incentivise innvotaive practices and process that will demonstrate best practices for eventual application into the model codes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5290	202 Definitions
Submitter:	Thomas Culp, Birch Point Consulting LLC	
Requested Action:	Add new as follows	
Proposed Change:	**DYNAMIC GLAZING.**Any fenestration product that has the fully reversible ability to change itsperformance properties, including U-factor, SHGC, or VT.	
Reason:	Add definition for dynamic glazing for use in chapter 7. Definition taken from IECC.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5313	303.1 Green buildings
Submitter:	Craig Conner, Building Quality	
Requested Action:	Revise as follows	
Proposed Change:	[Adjust the point levels in energy in Table 303 to represent 10%, 20%, 30% and 40% above the IECC.]	
Reason:	This is based on the presumption that the 2015 codes will become the base for the 2015 ICC 700; including the 2015 IECC becoming the base for the energy chapter. Exceeding the 2015 IECC by 50% is a very tall order. At 40% the 2015 NGBS emerald energy level will exceed the 2012 NGBS emerald level by about 5%. It is not clear what the resulting points will become, but they might be 20, 40, 60, and 80.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5217	303.1 Green buildings
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	
Proposed Change:	**303.1 Green Buildings.** The threshold points required for the environmental rating levels for a green building shall be in accordance with Table 303. To qualify for one of these rating levels, all of the following shall be satisfied: (1) The threshold number of points, in accordance with Table 303, shall be achieved as prescribed in Categories 1 through ~~6~~ 7. The lowest level achieved in any category shall determine the overall rating level achieved for the building. (2) In addition to the threshold number of points in each category, all mandatory provisions of each category shall be implemented. (3) ~~In addition to the threshold number of points prescribed in Categories 1 through 6, the additional points prescribed in Category 7 shall be achieved from any of the categories.~~ Where deemed appropriate by the Adopting Entity based on regional conditions, additional points from Category 7 may be assigned to another category (or categories) to increase the threshold points required for that category (or categories). Points shall not be reduced by the Adopting Entity in ~~any of the six other~~ category~~ies~~ 7.	
Reason:	The language of current Section 303.1 is confusing, and it could be misinterpreted in a way that permits code users to satisfy some or all of the energy efficiency points with points from any other category. We do not think this was the intent of this section, so we have submitted the above changes to clarify that regardless of the distribution of points among the ICC-700 chapters, the minimum Chapter 7 point requirement must be met by requirements from Chapter 7. Chapter 7 of ICC-700 contains requirements and options that will yield measurable energy and environmental benefits over the home's useful lifetime – potentially 70 or 100 years. A home that consumes unreasonably high amounts of energy will become a problem not only for the owner of the home, who must either perform an energy efficiency retrofit or pay higher energy costs, but will also become a long-term problem for cities and states struggling to curb increasing demand for energy. Energy conservation must be a primary consideration in any green home, and Section 303.1 should be clarified to ensure the proper application of Chapter 7 points.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5064	1001.1 Building owner's manual is provided
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Add new as follows	
Proposed Change:	(22) Information on the importance and operation of the home's fresh air ventilation system.	
Reason:	Proper ventilation is important especially in tight homes. Most home owners do not understand the importance of this and may turn off the equipment in an attempt to save energy.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5173	1001.1 Building owner's manual is provided
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	**(5)** Information on local recycling and composting programs.	
Reason:	Section 1001.1 states that information be included in the owner's manual as available and applicable. Information on composting programs should be referenced in part (5).	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 726	1001.1 Homeowner's Manual
Submitter:	Josh Jacobs, GREENGUARD Environmental Institute	
Requested Action:		
Proposed Change:	**(19)** Instructions for maintaining gutters and downspouts and importance of diverting water a minimum of 5 feet away from foundation. **(20)** A narrative detailing the importance of maintenance and operation in retaining the attributes of a green-built building. **(21)** Where storm water management measures are installed on the lot, information on the location, purpose, and upkeep of these measures. (22) Explanation of and benefits from green cleaning in the home.	
Reason:	This section discusses many things that can contribute to not only the buildings continued 'greeness', but also the sustainable footprint of the people that occupy it. One of the main things that can be detrimental to a home's sustainability following construction is the introduction of unhealthy/unsafe cleaning practices. These can directly impact not only the occupant's health, but also the natural environment around the home and even far afield. We should require information be provided to the homeowner on green cleaning practices.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 742	1001.1 Homeowner's Manual
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:		
Proposed Change:	UUU	
Reason:	We are glad to see that this section includes information on local recycling programs. The section should also specify information identifying local governments, utilities, retailers and manufacturers who offer proper disposal of refrigerators and freezers in partnership with EPA's Responsible Appliance Disposal (RAD) Program. RAD is an EPA partnership program that protects the ozone layer and reduces emissions of greenhouse gases (http://www.epa.gov/ozone/partnerships/rad/). The requirements of the RAD program include ensuring that: 1) refrigerant from appliances is recovered and either reclaimed or destroyed; 2) appliances' insulating foam, which contains harmful foam-blowing agents, is recovered and destroyed, or the blowing agent is recovered and reclaimed; 3) metals, plastic and glass are recycled; and 4) PCBs, mercury and used oil are recovered and properly disposed of.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5174	1002.1 Training of building owners (one- and two-family dwellings)
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(7) recycling and composting practices	
Reason:	Training on composting practices should be included in the training dealing with recycling and waste management.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5096	1002.1 Training of building owners (one- and two-family dwellings)
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	*(8) Documentation and training as required in QI-5 2010*	
Reason:	QI-5 2010 designates documentation and owner training based on the type of equipment installed. Relisting every combination in this standard would be duplicative. By adding the QI-5 requirement all HVAC system types would be covered.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5175	1003.1 Building construction manual
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Add new as follows	
Proposed Change:	(9) A Disassembly Plan with as-built drawings and the chemical and mechanical inventory yielding information about the method of disassembly of building systems and the properties of major materials and components.	
Reason:	A disassembly plan should be provided to the owner to facilitate deconstruction and disassembly of the home to maximize reuse and salvaging of materials during renovation or at the end of the building's useful life.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5097	1003.2 Operations manual
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	*(10) Documentation and OEM manuals as required in QI-5 2010*	
Reason:	QI-5 2010 designates documentation and how to highlight it for ease of usage based on the type of equipment installed. Relisting every combination in this standard would be duplicative. By adding the QI-5 requirement all HVAC system types would be covered.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5065	1003.2 Operations manual
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Add new as follows	
Proposed Change:	(11) Information on the importance and operation of the building's fresh air ventilation system.	
Reason:	Proper ventilation is important especially for tight buildings. Including this information in the operations manual is appropriate.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 744	1003.2 Operations Manuals
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:		
Proposed Change:	.	
Reason:	a) We are glad to see that this section includes information on local and on-site recycling and hazardous waste disposal programs. The section should specifically mention local recycling of refrigerators and freezers, which contain hazardous materials subject to proper management and storage requirements under Subtitle C of the Resource Conservation and Recovery Act. These materials include mercury, used oil, and PCBs (see 40 CFR Parts 273, 279 and 761). b) We are glad to see that this section includes a list of practices to conserve water and energy (e.g., turning off lights when not in use, switching the rotation of ceiling fans in changing seasons, purchasing ENERGY STAR appliances and electronics). The example of “purchasing ENERGY STAR® appliances and electronics” should be modified to state “replacing older, inefficient appliances and electronics with ENERGY STAR appliances and electronics” so as to capture the additional benefit associated with removing older appliances from the grid.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5081	1003.3 Maintenance manual
Submitter:	Josh Jacobs, UL	
Requested Action:	Add new as follows	
Proposed Change:	(10) A green cleaning plan which shall include guidance on sustainable cleaning products.	
Reason:	Cleaning can have a negative impact on the indoor environmental quality that a builder and occupant have tried to ensure. By providing an understanding of a green cleaning plan to the owners and occupants, you can minimize this potential risk.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5098	1003.3 Maintenance manual
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	*(10) OEM Maintenance requirements as required in QI-5 2010*	
Reason:	QI-5 2010 designates information that is needed by owners with regards to maintenance. Relisting every combination in this standard would be duplicative. By adding the QI-5 requirement all HVAC system types would be covered.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5154	1004.1 Reserved - To Be Determined
Submitter:	Stephen J Holzer, eM8s, LLC	
Requested Action:	Delete and substitute as follows	
Proposed Change:	**1004.1 Building Information Modeling (BIM)**. Multifamilybuilding owner uses BIM as primary means tooperate and maintain a more efficient building.	
Reason:	Building Information Modeling (BIM) is a computer generated model based process that simulates planning, design, construction and operations for buildings. It is a single repository for both three-dimensional, two-dimensional, and material properties information that allows data interoperability of all stakeholders to better inform design and construction decisions with the goal of producing the best product possible. This information technology will increase design and construction efficiencies and decrease costs for builders and end users. BIM may also facilitate better communication, collaboration and coordination among building industry professionals and trades working on the same project. Credit should be given to Builders utilizing the open industry standards as defined in the National Building Information Modeling Standard.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Appendix E: Accessory Structures

Proposal ID TBD	LogID 5314	E202 Conformance criteria
Submitter:	Craig Conner, Building Quality	
Requested Action:	Add new as follows	
Proposed Change:	Add a new appendix that specifies procedures and guidelines forapproving alternative programs that may or may not look or be formatted likeNGBS or IECC, but are verified to achieve their overall energy efficiencygoals.	
Reason:	This new appendix specifies procedures and guideline for approving alternative programs that may or may not look or be formatted like NGBS or IECC, but are verified to achieve their overall energy efficiency goals. There are many good programs that have achieved local, state and national success. NGBS users, the NGBS support organization, or others should have the ability to recognize a variety of accomplished programs. Due to the size of the submittal, it is being sent in as a separate file. **[SEE ATTACHMENTS TO PUBLIC COMMENTS FOR ADDITIONAL INFORMATION]**	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5315	E202 Conformance criteria
Submitter:	Craig Conner, Building Quality	
Requested Action:	Add new as follows	
Proposed Change:	Add appendix specifies prescriptive packagesthat comply with the energy efficiency goals of the 10%, 20%, 30% and 40%levels in the energy chapter.	
Reason:	This appendix specifies prescriptive packages that comply with the energy efficiency goals of the 10%, 20%, 30% and 40% levels in the energy chapter. The user can select any number of choices. This provides a simpler, mostly prescriptive option that allows freedom have wider variation of choices, but does not require a simulation. The “Trades and Adds” table specifies how much a change to a component affects the total. Some “Trades and Adds” will have a negative %. “Trades and Adds” also adds additional specific options. Any combination shall be permitted provided the “Trades and Adds” yields at least the “Extra” required. **[SEE ATTACHMENTS TO PUBLIC COMMENTS FOR ADDITIONAL INFORMATION]**	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

TG-2: Site and Lot Development

Chapter 4: Site Design and Development

Proposal ID TBD	LogID 5189	401.0 Intent (Site Selection)
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Applicants should only get points for one of the categories and the points should have a greater spread, e.g., Low slope-5 points, Infill-10 points, Greyfield-17points, and Brownfield-27 points.	
Reason:	The wording “one or more of the following” is ambiguous. Are the points additive? For example, the Belmar development in Longwood CO, is an infill site, that was built on an old shopping center site so it is also a greyfield site. The former automotive repair center had some petroleum contaminants in the soils around it so it could also qualify as a brownfield. It also has low slopes. Would it get 27 points? That doesn’t seem right.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5230	401.4 Low-slope site
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete without substitution	
Proposed Change:	~~401.4 **Low-slope site.** A site with….selected.~~	
Reason:	: It is not clear why it is desirable to include a section that specifically encourages the use of low-slope sites. There are environmental trade-offs whether one selects a site that is relatively flat or one selects one with steeper slopes. In the former, there is a greater likelihood that the flat land could be high-quality farm land; in the latter, there is the possibility that construction will cause erosion. The problems associated with the former cannot be mitigated, whereas the problems associated with the latter can be prevented or mitigated through a variety of practices, including using pin foundations or terraces that stabilize the slopes – and other practices for which points are available elsewhere in Chapter 4 (see 403.3). Also, if the slope is already heavily eroded, structures built on the slope may accrue a net environmental gain by reducing slope movement. Moreover, the 5 points made available through this credit seem very high. Flat areas are the easiest for a builder to build upon, so a builder may be rewarded simply for doing what comes easiest, not because it was the environmentally sound approach to take (and even when the site is quality farmland, a wetland, a surface water buffer, or other environmentally sensitive area). And, as building on a low-slope area is unlikely to provide anything close to the environmental benefits provided by building on an infill, greyfield, or brownfield site, the number of points attached to it should be much lower (with at delta of at least 10 points), if any points are attached to it at all.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5208	403.1 Natural resources
Submitter:	Wes Sullens, StopWaste of Alameda County	
Requested Action:	Add new as follows	
Proposed Change:	**New section:** Invasive plants are removed from the site.	
Reason:	Invasive plants do enormous environmental and economic harm, as stated in my other comments for sections 403.6 and 503.5. The development of a site creates an opportunity to remove invasive plants from an area of land, thus removing the threat of their spread to neighboring areas and providing a service to the community and local ecosystem.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5072	403.10 Existing and recycled materials
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**Existing and recycled materials.** Existing pavements, curbs, and aggregates are salvaged or reincorporated into the development or recycled asphalt or concrete materials are used ~~as follows:~~ (Points awarded for every 10 percent of total construction and demolition materials that are reused, ~~deconstructed,~~ and/or salvaged. The percentage is consistently calculated on a weight or volume or cost basis.) ~~(1) Existing pavements, curbs, and aggregates are salvaged or reincorporated into the development.~~ ~~(2) Recycled asphalt or concrete is utilized in the project.~~	
Reason:	It was not clear in the 2012 text if the percentage for recycled asphalt could be combined with the percentage or salvaged/reincorporated materials of if 10% of each type was needed for the points.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5237	403.11 Environmentally sensitive areas
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Move this section to 401 (Site Selection) and then tier the points as follows: (1) Reward the highest level of points for avoiding environmentally sensitive areas. (2) Allow a somewhat lower number of points when a site with environmentally sensitive areas is selected and any sensitive areas damaged by construction are fully restored to their pre-construction ecosystem functions and services. (No site can truly be restored to its pre-construction state, even when there is an attempt to do so; thus the lower number of points.) (3) Allow an even fewer number of points when environmentally sensitive areas on the site that are degraded or disturbed by construction are enhanced or the damage is otherwise mitigated.	
Reason:	These points pertain to an important element in site selection: avoiding environmentally important areas. Its importance should be highlighted earlier in the chapter as part of the site selection section. Moreover, restoration and mitigation achieve different results and should not be rewarded the same level of points.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5231	403.5 Stormwater management
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete and substitute as follows	
Proposed Change:	~~(2) Vegetative swales…infiltration features are used.~~ (2) One or more of the following features is included on the site or structure to allow for on-site infiltration of water: vegetative swales, bioretention systems, rain gardens, wetlands, french drains, drywells, and vegetative roofs.	
Reason:	This revised language clarifies intent of the credit and includes additional practices for which builders should receive credit.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5232	403.5 Stormwater management
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	For subpart (3), increase the points associated with items (b) and (c), or at least increase them relative to item (a), e.g., 6 points for (b) and 10 points for (c).	
Reason:	The expense and effort dedicated to the much higher portions of permeable materials, as well as the significantly higher potential for reducing runoff, should be rewarded by a greater step up in the point system.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5233	403.5 Stormwater management
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Subparts (4) and (5) should each offer a number of points significantly higher than that of any other single item under 403.5, e.g., 25 points. These points should also not be additive with each other nor with the other items under 403.5, because (4) and (5) would require an array of approaches that would likely be redundant with most of the other items.	
Reason:	Achievement of (4) or (5) is a commitment to preserving site hydrology and reducing the impact of the development on water quality. Such an investment should be rewarded with higher points as an incentive for reaching for such high levels of environmental performance. Moreover, items (4) and (5) are comprehensive for the site, whereas (3) only addresses hardscape areas and (1), (2), and (6) only address some landscape features or components that could be incorporated into the landscape design. In the current version of NGBS, items (4) and (5) are rewarded with a point less than is (3)(c), which is quite at odds with the potential benefits that could be achieved under the respective items. The environmental benefits of (4) and (5) are likely much higher than those of all the other items in 403.5, and should be rewarded proportionately.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5235	403.5 Stormwater management
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(6) Stormwater management features/structures are designed for the reduction of nitrogen, phosphorus, ~~and~~ sediment~~.~~, and pathogens.	
Reason:	Pathogens are of concern in many areas. Low impact development practices that use soil-based infiltration systems can reduce pathogen loadings to receiving waters.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5236	403.6 Landscape plan
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(4)(a) 0 percent ~~or EPA WaterSense Water Budget Tool is used to determine the maximum percentage of turf areas~~ Create a new credit that rewards points for the use of the WaterSense Budget Tool, e.g.: (#) The landscape is designed to reflect the water use budget determined through the EPA WaterSense Water Budget Tool. Suggested point value: 6	
Reason:	The WaterSense Budget Tool can be used to design a landscape that reflects local climate conditions. The components of the design that are considered need not be limited to turfgrass. Thus, it makes sense to move the WaterSense Budget Tool into its own credit, independent of choices made on turfgrass.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5255	403.6 Landscape plan

Submitter: Greg Johnson, Greg Johnson Consulting

Requested Action: Delete and substitute as follows

Proposed Change:

403.6 Landscape plan. A landscape plan is developed to limit water and energy use incommon areas while preserving or enhancing the natural environment utilizingone or more of the following. Examples of techniques may include, but are notlimited to, one or more of the following:

(1)	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.	~~5~~ 6
(2)	On-site native or regionally appropriate trees and shrubs are conserved, maintained and reused for landscaping to the greatest extent possible.	~~5~~ 6
(3)	Turf grass species, other vegetation, and trees that are native or regionally appropriate for local growing conditions are selected.	~~4~~ 6
~~(4)~~	~~The percentage of all turf areas are limited as part of the landscaping.~~	-
-	~~(a) 0 percent~~	~~4~~
-	~~(b) greater than 0 percent to less than 20~~	~~3~~
-	~~(c) 20 percent to less than 40 percent~~	~~2~~
-	~~(d) 40 percent to 60 percent~~	~~1~~

Duplicative proposed change to Section 503.5:

503.5 Landscape plan. A landscape plan for the lot is developed to limit water andenergy usewhile preserving or enhancing the natural environment. (Where "front" only or "rear" only plan isimplemented, only half of the points (rounding down to a whole number) areawarded for items 1-6)

(1)	~~Where a lot is less than 50% turf, a~~ 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.	~~5~~ 6
(2)	Turf grass species, other vegetation, and trees are selected and specified on the lot plan that are native or regionally appropriate for local growing conditions.	~~4~~ 6
~~(3)~~	~~The percentage of turf areas that is designed to be mowed is limited and shown on the lot plan. The percentage is based on the landscaped area of the lot not including the home footprint, hardscape, and any undisturbed natural areas.~~	-
-	~~(a) 0 percent~~	~~4~~
-	~~(b) greater than 0 percent to less than 20~~	~~3~~
-	~~(c) 20 percent to less than 40 percent~~	~~2~~
-	~~(d) 40 percent to 60 percent~~	~~1~~
	Practices 4 through 6 unchanged	-
(6)	Vegetative wind breaks or channels are designed to protect the lot and immediate surrounding lots as appropriate for local conditions.	~~4~~ 5

Reason: The Outdoor Power Equipment Institute recommends striking all of Sections 403.6. (4) and 503.5 (3). We additionally request that the points for turf limitations in Sections 403.6. (4) and 503.5 (3) be reallocated to other more appropriate sustainable practices within their respective sections.

The inclusion of disincentives for areas of turfgrass conflict with the intent of the NGBS and aren't consistent with other trends in landscape regulation. The 'less turf-more points' formula suggests a negative environmental value to turfgrass and completely discounts its positive social, safety, and environmental attributes. Limiting turfgrass also limits builder flexibility in installing landscapes for the best site specific environmental performance and inhibits offering a green residential building able to compete on an apples-to-apples basis for curbside appeal with traditional residential buildings.

There is extensive scientific documentation of the valuable environmental ecosystem services that can be provided by turfgrass; (stormwater management, biomass accumulation, replacement of hardscapes, bioremediation, carbon sequestration, environmental cooling, nitrogen and phosphorous capture, fire safe site design, atmospheric cleansing, control of water and wind erosion, oxygen production), meaning that an incentive for the limitation of its use is unwarranted. This is particularly true considering the abilities of turfgrass to go dormant in periods of drought while still providing some of its ecosystem services and to be ready to provide the balance when precipitation or wastewater is again available.

Consider, for example, the cooling benefits of turfgrass. In some instances, ground level temperatures of grass-covered land areas are 30 to 40 degrees cooler than bare soil. They are also 50 to 70 degrees cooler than hardscape (asphalt or concrete) areas. FN1. Reducing turfgrass increases the 'heat island' effect which in turn increases demand for energy.

	In addition to its cooling properties, managed turfgrass plays a positive role in our efforts to confront climate change. A well maintained, growing lawn that is fed by nutrients from grass clippings sequesters carbon from the atmosphere and helps to minimize the property's carbon footprint. FN2. Reducing turf areas and replacing them with mulch or hardscape makes active carbon 'sinks' inactive, potentially increasing the carbon released back into the atmosphere by exposing soils or using non-growing, decaying materials such as mulch. These alternative methods can be aesthetically appealing and help control water run-off and use, but they do not share the turfgrass benefit of contributing to the reduction of greenhouse gas emissions. It should be noted that a complete absence of scientific foundation was offered when turfgrass disincentives were suggested through public comment to the initial draft of the NGBS when the commenter merely referred to a few local green building programs in arid regions and stated: "*Seems reasonable to give credit for both limited grass*, as well as almost or no grass." Similarly, in the last cycle of ICC-700, the EPA comment to create stronger disincentives for turfgrass installation was presented as arbitrary targets with no scientific justification. In the EPA comment the statement was made that *"EPA supports the inclusion of a practice restricting turf areas in landscaping…"* This conflicts with the EPA's August 12, 2011 public comment to GG 243-11 of the IgCC in which the agency asks for turf area restrictions to be eliminated, saying instead that *"… a water budget approach would be preferable to guide landscape design, irrespective of the source of irrigation…"* It also conflicts with EPA's 2012 removal of the 40% turf limitation from the WaterSense Specification as well as the White House's Council on Environmental Quality's October 31, 2011 Guidance for Federal Agencies on Sustainable Practices for Designed Landscapes which has no prescriptive turf limitation and in fact recommends the use of turf for certain circumstances. This philosophical approach parallels the action of the International Code Council's membership which overwhelmingly rejected all turf limitations at the final action hearings for the 2012 IgCC on November 3, 2011. The best way to facilitate a market approach to green building demand is to offer features that the public wants while providing buildings and sites with superior environmental performance. There was extensive discussion during the development of the first edition of the NGBS about prohibiting fire places and swimming pools from green residential buildings or awarding 'negative points' to buildings that offered those amenities. The committee wisely rejected approaches that created disincentives to demand for green residential buildings. Turfgrass is a similar amenity. For many people the maintenance of a lawn is a hobby of choice and a matter of pride. It's also affordable, for both installation and maintenance, which can help foster more green building demand. Simply, many people like turfgrass and many would want to own or live in a green residential building with the amenity. They should not be penalized for wanting a place for their children and pets to engage in healthy play. Beyond amenities, turfgrass has larger societal benefits as well. It is the superior vegetative surface material for athletic activity, both organized and informal. It is unparalleled as a vegetative surface for viewing performances and other outdoor assembly uses and social gatherings. It is the most accessible traveling surface, other than hardscapes, as it allows for unobstructed, omni-directional movement. Where public safety is a concern, it is an inviting feature because it doesn't permit undesirable lurking making it a key component of crime prevention through environmental design. For fire safety purposes turfgrass serves as defensible space for compliance with the Wildland Urban Interface Code and, when used with Grasscrete or similar materials, is suitable for use as a fire access lane or to replace other hardscapes. Finally, the division of points in our proposed change doesn't reduce the total amount of points available for providing a landscape plan designed to limit water and energy use. Instead those points are allocated to other practices that demonstrably preserve or enhance the natural environment and which can benefit from the inclusion of turfgrass as an environmentally sound landscape strategy. Note that the greatest point increase is given to providing vegetation that is native or regionally appropriate for local growing conditions which is the best option in these sections for fostering water efficiency. FN1. Beard, J.B. and R.L. Green. 1994. The Role of Turfgrasses in Environmental Protection and Their Benefits to Humans. Journal of Environmental Quality. Vol 23:3 FN.2 Sahu, R. 2008. Technical Assessment of the Carbon Sequestration Potential of Managed Turfgrass in the United States. Outdoor Power Equipment Institute (OPE/). Alexandria, VA. **[SEE ATTACHMENTS TO PUBLIC COMMENTS FOR ADDITIONAL INFORMATION]**
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 5258	403.6 Landscape plan

Submitter:	Greg Johnson, Greg Johnson Consulting
Requested Action:	Revise as follows
Proposed Change:	**403.6 Landscape plan.** A landscape plan is developed to limit water and energy use incommon areas while preserving or enhancing the natural environment utilizingone or more of the following. Examples of techniques may include, but are notlimited to, one or more of the following:

	Practices 1-3 are unchanged	
(4)	Turfgrass is over-seeded with not less than the equivalent rate of one-half pound per acre (.22 kg/.405 ha) of white clover (trifolium repens) or similar flowering maintenance tolerant herbaceous plants.	5
~~(4)~~	~~The percentage of all turf areas are limited as part of the landscaping.~~	-
-	~~(a) 0 percent~~	~~4~~
-	~~(b) greater than 0 percent to less than 20~~	~~3~~
-	~~(c) 20 percent to less than 40 percent~~	~~2~~
-	~~(d) 40 percent to 60 percent~~	~~1~~

Duplicative proposed change submitted to Sec. 503.5.

Reason:

I propose the elimination of the questionable practice awarding of points for the limitation of areas of turfgrass and to instead award points for the inclusion of white clover to areas of turfgrass. This measure will improve the wildlife habitat value of turfgrass systems installed on ICC-700 compliant sites while maintaining the durability, carbon sequestration, environmental cooling, atmospheric cleansing, control of water and wind erosion, and oxygen production functions of the turfgrass component.

The addition of white clover to turfgrass is not a new idea; it was commonly added to lawns in the first half of the 20th century. Returning to this practice is suggested as an important option for sustainable turfgrass systems where the performance of the turfgrass materials and white clover are complimentary.

This approach is akin to that taken with structural building materials; we do not limit the use of steel in multi-story buildings because it yields in intense fire conditions – we install it as a component of a system with some sort of fireproofing added; we do not limit the use of concrete because of its permeability – we add water and vapor resistive barriers to create an assembly; we do not limit the use of exterior wood – we treat the wood with some other material to resist rotting. By adding flowering plants to the assembly an insect and bird friendly turfgrass system is provided.

The addition of white clover to turfgrass systems is consistent with the “bee lawn” research of the University of Minnesota’s entomology and horticulture departments.[1, 2] This research provides the basis for turfgrass systems that support pollinating arthropods and other fauna.

Research in Illinois by Dr. John Hilty indicates that 53 pollinating insect species, (33 long tongued bees, 14 short tongued bees, 6 wasps,) and 35 non-pollinating insects (9 flies, 14 butterflies, 10 skippers, 2 moths) suck the nectar of white clover.[3] Hilty also reports that many moth caterpillars, 4 species of butterfly caterpillars, and the Flower Thrip all use clover as a food source.[4]

In other white clover faunal associations Hilty states that *“the foliage and seedheads are eaten by the Ruffed Grouse, Greater Prairie Chicken, Wild Turkey, and Ring-Necked Pheasant. Some songbirds occasionally eat the seeds, including the Horned Lark and Smith Longspur (winter only). Various small mammals find the foliage and seedpods very attractive as a source of food, including the Cottontail Rabbit, Groundhog, Thirteen-Lined Ground Squirrel, and Meadow Vole. Large hoofed animals, such as the White-Tailed Deer, cattle, horses, and sheep, also graze on the foliage of clovers.”*[5]

Similarly, the USDA Forest Service identifies white clover as *“an excellent forage plant for livestock and wildlife. The leaves and flowers are grazed by grizzly bear, moose, mule, white-tailed deer, and blue grouse. It comprises nearly 6 percent of the annual forage of the white-footed vole. The seeds are eaten by the northern bobwhite, bufflehead, American coot, sage grouse, ruffed grouse, sharp-tailed grouse, horned lark, mallard, gray partridge, greater prairie chicken, willow ptarmigan, American pintail, California quail, and American robin.”*[5]

Given white clover’s global distribution, (widely naturalized in the temperate regions of the world; native of Europe, North Africa, and western and central Asia;[6] present in all 50 states and provinces of Canada[7]) its habitat value to local wildlife is orders of magnitude beyond that identified by Dr. Hilty in Illinois or to the North American species reported by the USDA Forest Service.

	Besides wildlife nutrition, white clover is edible by humans with minimal preparation. It is high in protein and used for soup and salads and tea. It also can be made into flour. White clover's potential contribution to urban agriculture furthers its sustainability quotient.[8] White clover is a nitrogen fixing plant, capturing nitrogen from the atmosphere and making it available as fertilizer to other plants when it dies; a sustainability boon in addition to its habitat and urban agriculture values. According to multiple sources it remains green even during drought when turfgrass is dormant; eliminates the need for herbicides because it suppresses weeds; virtually eliminates the need for fertilizer when incorporated with turfgrass because of its nitrogen contribution; requires no pesticides; and smells good. The standard seeding recommendation by the USDA Natural Resources Conservation Service is 2 lbs. per acre (43,560 ft^2) for pastures for 50% coverage.[9] A rate equivalent to 1/2 pound per acre is suggested as appropriate for overseeding lawns. The offered performance alternative to white clover, *"similar flowering maintenance tolerant herbaceous plants"* helps address sites where white clover is not ideally suited. Adding language to the Commentary to provide guidance for the selection of white clover alternatives is strongly indicated. According to the USDA's Natural Resources Conservation Service neither the Federal government nor any state government identifies white clover as a noxious weed or invasive plant although, as is for many beneficial plant species, proper management is recommended for control.10 1. http://blog.lib.umn.edu/efans/ygnews/2012/03/a-bee-lawn-how-to-have-an-inse-1.html 2. http://turf.umn.edu/category/bee-lawn/ 3. www.illinoiswildflowers.info/flower_insects/plants/white_clover.htm 4. http://www.illinoiswildflowers.info/weeds/plants/white_clover.htm 5. http://www.fs.fed.us/database/feis/plants/forb/trirep/all.html 6. http://www.efloras.org/florataxon.aspx?flora_id=110&taxon_id=200012344 7. http://plants.usda.gov/core/profile?symbol=TRRE3 8. http://en.wikipedia.org/wiki/Trifolium_repens 9. http://plants.usda.gov/factsheet/pdf/fs_trre3.pdf 10. http://plants.usda.gov/java/noxComposite **[SEE ATTACHMENTS TO PUBLIC COMMENTS FOR ADDITIONAL INFORMATION]**
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	**LogID 5320**	**403.6 Landscape plan**
Submitter:	Craig Conner, Building Quality	
Requested Action:	Delete without substitution	
Proposed Change:	403.6 ~~(4)~~	
Reason:	Item 3 makes sense, when it says use appropriate vegetation; presumably including low water grass. Item 4, limiting turf areas, does not. We want to limit water use, not limit grass.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5206	403.6 Landscape plan
Submitter:	Wes Sullens, StopWaste of Alameda County	
Requested Action:	Revise as follows	
Proposed Change:	"~~Turf grass species, other vegetatio~~n, In areaswhere turf grass is not used, non-invasive vegetation and trees that arenative or regionally appropriate for local conditions are selected."	
Reason:	1) The fourth item under 403.6 rewards points for the use of turf grass in a manner that is consistent with local water availability. Thus, the selection of a turf grass that is "regionally appropriate" in item 3 is redundant with item 4, and could lead to double-rewarding of credit points for the use of turf. Such encouragement of the use of turf grass clearly is inconsistent with the goals of this section. 2) Because turf grasses are regularly mown, they do not provide the height nor flowers that provide food and habitat for pollinators and other wildlife. Therefore, it does not make sense to group them with other types of vegetation. In addition, turf grasses have shallow root depths, and are not as effective at sequestering carbon, retaining water, creating porous soils, or fostering biota, as compared to other plant species with deeper root systems. 3) Turf grass requires a unique maintenance regime that creates a level of pollution risk that is higher than that created by other types of vegetation – yet another reason not to group it with non-turf types of vegetation. 4) The reasons to avoid invasive plants are many: • Invasive plants produce greater amounts of waste. Invasive plants tend to grow faster, spread beyond their original planting areas, and result in greater amounts of green waste than non-invasive species. Additionally, effective eradication of invasive plants often requires the use of herbicides which are classified as hazardous waste and must be disposed of properly at end of life. Avoiding invasive plants is a waste prevention measure for cities and counties who regulate and operate hazardous waste facilities and landfills. • Invasive plants have serious environmental impacts, including increased frequency and intensity of fire regimes in certain climes, altered soil composition, lack of dissolved oxygen in waterways, changes to natural hydrologic cycles, and threaten wildlife. While the effects of invasive plants are most severely felt in the rural areas and wildlands, evidence is that most invasive plants currently causing havoc in the west started as horticultural plantings in urban areas. Therefore, land development in urban and suburban areas have a direct correlation with invasive plant exposure throughout the region. • Management of invasive plants is expensive. In California for example, the cost of control, monitoring, and outreach is conservatively estimated to be $82 million a year (not including indirect costs associated with lost agricultural yields, increased severity of wildfires and floods, loss of productive range and timber lands, reduced land values, damage to infrastructure, and degraded recreational opportunities). • Avoiding invasive plants via building standards is effective and low-cost. Experts agree that prevention is the most effective and resource-efficient way to combat the spread of invasive plants. By requiring construction projects to avoid invasive plant species, demand for invasive plants from nurseries and suppliers will diminish over time. Further, a wide variety of alternatives to invasive plants is easily available with no cost difference, resulting in no cost increase for the design and construction industry.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5264	405.0 Intent (Innovative Practices)
Submitter:	Matt Belcher, Verdatek Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**405.11 Resilience** Site incorporates one or more of the following resilience options, as applicable. 1. The development of portions of the site(s) located within flood hazard areas is avoided as follows: (a) Portions of sites located within flood hazard areas are avoided. (b) Portions of sites located within areas subject to a 0.2% annual chance of (500-year) flood are avoided.	
Reason:	With the focus on future enhancement of the model codes to provide for enhanced "Resiliant" construction, It is an opportunity to include reference in this "above code" standard to incentivise innvotaive practices and process that will demonstrate best practices for eventual application into the model codes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5261	405.1 Driveways and parking areas
Submitter:	Greg Johnson, Greg Johnson Consulting	
Requested Action:	Revise as follows	
Proposed Change:	**405.1 Driveways and parking areas.** Driveways and parking areas are minimized or mitigated by one or more of the following:	
	Practices 1-3 unchanged	
	(4) Closed cell grass paving systems are utilized to reduce the footprint of surface driveways, fire lanes, streets and parking areas.	
	(a) 25 % to less than 50%	**4**
	(b) 50% to 75%	**5**
	(c) greater than 75%	**6**
Reason:	Closed cell grass paving systems offer multiple environmental benefits; being completely pervious for stormwater management and offering not just passive heat mitigation, but active cooling through transpiration. Grass paving also sequesters carbon and produces oxygen. These multiple benefits deserve recognition as an innovative practice.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5202	405.1 Driveways and parking areas
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(1) Off-street parking area are shared or driveways are shared; …rear-loaded garages. No more than 20 percent of all single family homes shall have front-loaded garages, unless the topography prohibits rear loading. Front-loaded garages for detached homes should be placed a minimum of 15 feet behind of the front façade of the house.	
Reason:	The high number of curb cuts caused by front loaded garages creates a safety hazard for pedestrians with too many car pedestrian conflicts. This makes the streetscape unwalkable; discouraging active transportation modes. Snout houses with garage doors prominently displayed create an inhospitable environment for walking. People feel safer when the design of the building façade gives the impression of more eyes on the street.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5190	405.2 Street widths
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete and substitute as follows	
Proposed Change:	~~(2) A waiver was secured by the developer from the local jurisdiction to allow for construction of streets below minimum width requirement.~~ (2) The subdivision has a minimum street connectivity standard of 90 intersections per square mile.	
Reason:	Narrow street widths do not work if you use a dendritic street pattern. Without a grid, emergency vehicles can get trapped on streets behind large vehicles. A grid allows multiple pathways to emergency site. A grid also reduces the average walking and biking trip length encouraging active transportation. Your use of the terms collector and local access reinforce the dendritic typology. The Standard of 90 intersections is a prerequisite of LEED-ND version 2009.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5191	405.4 Zoning
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete without substitution	
Proposed Change:	~~(1) Innovative zoning . . . .~~ Move the points to 405.7.	
Reason:	The innovation is zoning is not important for a green community. The design that results from the zoning changes affects how green the community is. Don't focus on process, focus on outcomes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5192	405.4 Zoning
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete without substitution	
Proposed Change:	~~(2) An Increase to the permissible . . .~~	
Reason:	An increase in height to promote density is redundant with section 405.7 Density.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5193	405.4 Zoning
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete and substitute as follows	
Proposed Change:	~~(3) Place-based amenities such as plazas, squares, and attached greens located around civic, commercial, and mixed-use property are accessible by sidewalks....~~ (3) Provide active open space of a minimum of 1/6 acre within ¼ mile walk of 90 percent of planned and existing units and entrances to no residential buildings. The open space must be accessible to the public and be clearly signed for public access. Squares, Parks, Paseos and Plazas all meet this criterion.	
Reason:	The existing text is too vague. There needs to be quantitative measures on the level of amenities. Most open spaces are underused because of bad design. Preserve the social aspects of publically accessible open space. The open space must be accessible to the public and be clearly signed for public access. Joint open space should not be designed to be viewed as a continuation of existing private backyards.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5194	405.6 Multi-modal transportation
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete without substitution	
Proposed Change:	~~(1) " or within 5 miles of mass transit station with parking".~~	
Reason:	90% of criteria air pollutants are emitted in the first 2 minutes of a cold start of a vehicle. Driving to transit does not greatly improve air quality.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5195	405.6 Multi-modal transportation
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete and substitute as follows	
Proposed Change:	~~(3) Walkways, bikeways, street crossings, and entrances designed to promote pedestrian activity are provided. New buildings...~~ (3) Create a grid of sidewalks and paths that provide a minimum level of connectivity of at least 90 intersections per square mile.	
Reason:	Walking as active transportation requires direct pathways and multiple routes. It is necessary to include a minimum sidewalk, path intersection connectivity to ensure multiple pathways, and short and relatively direct routes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5196	405.6 Multi-modal transportation
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(4) Bicycle parking and racks are indicated on the site plan and constructed for mixed-use, multi-family buildings, and/or common areas, with a minimum of 1 bicycle parking space per residential unit and 5,000 square feet of office space.	
Reason:	A minimum number of spaces is essential to ensure that a sufficient number of spaces is provided for occupants and to encourage bicycling. These numbers are taken from LEED 2009.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5197	405.6 Multi-modal transportation
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Reduce Subparts (5) and (6) to 3 points each and increase subparts (1) as revised and (2) to 6 and 10 points respectively.	
Reason:	Bike and car sharing depend on a network larger than the subdivision scale. It is difficult for the applicant to ensure an adequate size of transportation sharing system to ensure feasibility and use. Research by Ewing and Cervero demonstrate that “access to transit” is second only to “siting in a central location” in its impacts at reducing Household vehicle miles traveled.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5198	405.8 Mixed-use development
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete and substitute as follows	
Proposed Change:	Delete the section in its entirety and replace with the following: <u>(1) If the majority of the project is residential, provide a least 10% square footage on non-residential uses. (2) For single use sites of 20 acres or less, 80% of the units should be within ¼ mile walk of 5 non-residential units with no more than two of the same type of use being counted.</u>	
Reason:	The mix of uses is in need of better quantification.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5199	501.1 Lot (Lot selection)
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Applicants should only get points for one of the categories and the points should have a greater spread, e.g., (1) Certified site 12, (2) Infill-10 points, (3) Greyfield-20points, (4) Brownfield-39 points, and (5) Low slope-5 points.	
Reason:	Are the points earned in this section additive? The wording “one or more of the following” is ambiguous. For example, the Belmar development in Longwood CO, is an infill site, that was built on an old shopping center site so it is also a greyfield site. The former automotive repair center of the former shopping center had some petroleum contaminants in the soils around it so it could also qualify as a brownfield. It also has low slopes. Would a lot in that project it get 33 points? That doesn’t seem right. They should only get points for one of the categories and the points should have a greater spread as suggested.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5238	501.1 Lot (Lot selection)
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete without substitution	
Proposed Change:	~~(5) A lot with an average slope calculation….~~	
Reason:	It is not clear why it is desirable to specifically encourage the use of low-slope lots. There are environmental trade-offs whether one selects a lot that is relatively flat or one selects one with steeper slopes. In the former, there is a greater likelihood that the flat land could be high-quality farm land; in the latter, there is the possibility that construction will cause erosion. The problems associated with the former cannot be mitigated, whereas the problems associated with the latter can be prevented or mitigated through a variety of practices, including using pin foundations or terraces that stabilize the slopes – and other practices for which points are available elsewhere in Chapter 5 (see 503.2). Also, if the slope is already heavily eroded, structures built on the slope may accrue a net environmental gain by reducing slope movement. Moreover, the 9 points made available through this credit seem extremely high. Flat areas are the easiest for a builder to build upon, so a builder may be rewarded simply for doing what comes easiest, not because it was the environmentally sound approach to take (and even when the site is quality farmland, a wetland, a surface water buffer, or other environmentally sensitive area). And, as building on a low-slope area is unlikely to provide anything close to the environmental benefits provided by building on an infill, greyfield, or brownfield site, the number of points attached to it should be much lower (with at delta of at least 10 points), if any points are attached to it at all.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5298	501.2 Multi-modal transportation
Submitter:	aaron gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	Add additional option under 501.2 for projects that are located near employment opportunities worth 5 points. Use metric Jobs per Square Mile (threshold to be determined). (This metric is easily verified through Walkscore Streetsmart) (5) A lot is selected near employment opportunities...	
Reason:	Rewards walkability and access to community resources. Rewards mixed use development. Aligns with existing options 1 through 4.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5200	501.2 Multi-modal transportation
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Delete without substitution	
Proposed Change:	In subpart (1): ~~or within 5 miles of mass transit station with parking.~~	
Reason:	90% of criteria air pollutants are emitted in the first 2 minutes of a cold start of a vehicle. Driving to transit does not greatly improve air quality.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5201	501.2 Multi-modal transportation
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(3) A lot is selected within one-half mile (805 m) of six or more… <u>No more than two each of the following use category can be counted toward the total: Recreation, Retail, Civic, and Services.</u>	
Reason:	Having only 5 parks nearby will not generate a high Walkscore ™. A diversity of uses is necessary to create a genuine walkable environment.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5209	503.1 Natural resources
Submitter:	Wes Sullens, StopWaste of Alameda County	
Requested Action:	Add new as follows	
Proposed Change:	**New section:** Invasive plants are removed from the lot.	
Reason:	Invasive plants do enormous environmental and economic harm, as stated in my other comments for sections 403.6 and 503.5. The development of a lot creates an opportunity to remove invasive plants from an area of land, thus removing the threat of their spread to neighboring areas and providing a service to the community and local ecosystem.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5066	503.1 Natural resources
Submitter:	Philip LaRocque, LaRocque Business Management Services, LLC	
Requested Action:	Revise as follows	
Proposed Change:	503.1(5) All tree pruning on-site is conducted by Certified Arborist or other qualified professional.	
Reason:	Both the natural resource inventory and landscape plan in the standard allows for "qualified professional" reference and the same should be allowed for tree-pruning. Requiring only a Certified Arborist is simply too proprietary and anti-competitive. I have worked with many builder clients to meet this proprietary practice for 3 points with no success since it seriously limits competition.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5057	503.3 Soil disturbance and erosion
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	(1) Construction activities are scheduled to ~~minimize length of time that soils are exposed~~ such that disturbed soil that is to be left unworked for more than 21 days is stabilized within in 14 days.	
Reason:	“Minimize” is a very non-specific term that is open to a wide range of interpretation. It does not specific to what extent the minimization is needed in order to qualify for the points. A more definitive practice is needed. The suggested revision is consistent with the practice in 504.3(6).	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5130	503.3 Soil disturbance and erosion
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**Soil disturbance and erosion.** Soil disturbance and erosion are minimized by one or more of the following: (also see Section 504.3)(1) Construction activities are scheduled to ~~minimize length of time that soils are exposed~~ such that disturbed soil that is to be left unworked for more than 21 days is stabilized within in 14 days.	
Reason:	"Minimize" is a very non-specific term that is open to a wide range of interpretation. The current practice does not specify to what extent the minimization is needed in order to qualify for the points. A more definitive practice is needed. The suggested revision is consistent with the practice in 504.3(6).	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5273	503.3 Soil disturbance and erosion
Submitter:	Shelly Leonard, Green Space Consultants LLC	
Requested Action:	Add new as follows	
Proposed Change:	(1) Construction activities are scheduled to minimize length of time that soils are exposed following the 14 day EPA guideline. Multifamily projects should have a schedule that minimizes time that soil is exposed and subject to erosion and is implemented during the construction process.	
Reason:	Include major factors and provide as much clarity as possible in the practice description.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5239	503.4 Stormwater management
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	….rain gardens, bioretention systems, vegetative roofs, or similar infiltration systems.	
Reason:	This adds a couple common type of infiltration approaches for which builders should receive credit.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5240	503.4 Stormwater management
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	For subpart (3), increase the points associated with items (b) and (c), or at least increase them relative to item (a), e.g., 6 points for (b) and 10 points for (c).	
Reason:	The expense and effort dedicated to the much higher portions of permeable materials, as well as the significantly higher potential for reducing runoff, should be rewarded by a greater step up in the point system.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5241	503.4 Stormwater management
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	For subpart (4), greatly increase the point allowance, e.g., to 10 points.	
Reason:	A vegetated roof on a residence is expensive and in some ways more difficult to design and install than that on a commercial building due to the size of roof and because most homes have sloping roofs.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5242	503.4 Stormwater management
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Subparts (5) and (6) should offer a number of points significantly higher than that of any other single item under 503.4, e.g., 20-25 points. These points should also not be additive with each other nor with the other items under 403.5, because (5) and (6) would require an array of approaches that would likely be redundant with most of the other items.	
Reason:	Achievement of (5) or (6) is a commitment to preserving site hydrology and reducing the impact of the development on water quality. Such an investment should be rewarded with higher points as an incentive for reaching for such high levels of environmental performance. Moreover, items (5) and (6) are comprehensive for the site, whereas (3) and (4) only address hardscape areas and (1) and (2) only address some landscape features or components that could be incorporated into the landscape design. The environmental benefits of (5) and (6) are likely much higher than those of all the other items in 403.5, and should be rewarded proportionately.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5321	503.4 Stormwater management
Submitter:	Craig Conner, Building Quality	
Requested Action:	Delete without substitution	
Proposed Change:	503.4 ~~(4)~~	
Reason:	503.4 #4 refers to “using technology capable of withstanding the climate conditions of the jurisdiction” is meaningless. For example rock and concrete are generally capable of with standing any climate conditions on the planet. Exactly what are we supposed to use more of?	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5127	503.4 Stormwater management
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**Stormwater management.** Stormwater management includes one or more of the following low-impact development techniques: (3) ~~All or a percentage of impervious surfaces are minimized and~~ permeable materials are used for driveways, parking areas, walkways, and patios.	
Reason:	Using permeable materials reduces the impervious surface. It is not clear if the percentage applies to the “minimization” or the “permeable materials” or both and how to calculate the “minimization”. How should one determine if a driveway length has been shortened enough to be considered “minimized”?	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5068	503.5 Landscape plan
Submitter:	Philip LaRocque, LaRocque Business Management Services, LLC	
Requested Action:	Revise as follows	
Proposed Change:	503.5(2) Turf grass species, other vegetation, and trees that are native or regionally appropriate for local growing conditions are selected and specified on the lot plan. Site observation of installation is waived in winter conditions as long as the lot plan documents these species. 503..5(4) Plants with similar watering needs are grouped (hydrozoning) and shown on the lot plan. Site observation of installation is waived in winter conditions as long as the lot plan documents these species.	
Reason:	In cold climates, at least Climate Zones 7,6,5,4,these current practice point verification requirements are very discriminatory in cases where the certification is needed in winter months for buyer contracts or incentives. The current compromise that provides a temporary certification (or equivalent) pending verification of installation is really extra work, costly for all and not necessary if this reasonable amendment is accepted.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5129	503.5 Landscape plan
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**Landscape plan.** A landscape plan for the lot is developed to limit water and energy use while preserving or enhancing the natural environment. (1) Where a lot ~~is less~~ contains more than 50 ~~percent turf~~ natural vegetation, 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.	
Reason:	The intent is for this practice to apply to lots that have significant natural vegetation and that effort is made to restore that vegetation. The current text allows lots with minimal turf and minimal natural vegetation to get points for the practice.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5207	503.5 Landscape plan
Submitter:	Wes Sullens, StopWaste of Alameda County	
Requested Action:	Revise as follows	
Proposed Change:	"~~Turf grass species, other vegetatio~~n, In areas ofthe lot where turf grass is not used, non-invasive vegetation and treesthat are native or regionally appropriate for local conditions are selected."	
Reason:	1) The fourth item under 403.6 rewards points for the use of turf grass in a manner that is consistent with local water availability. Thus, the selection of a turf grass that is "regionally appropriate" in item 3 is redundant with item 4, and could lead to double-rewarding of credit points for the use of turf. Such encouragement of the use of turf grass clearly is inconsistent with the goals of this section. 2) Because turf grasses are regularly mown, they do not provide the height nor flowers that provide food and habitat for pollinators and other wildlife. Therefore, it does not make sense to group them with other types of vegetation. In addition, turf grasses have shallow root depths, and are not as effective at sequestering carbon, retaining water, creating porous soils, or fostering biota, as compared to other plant species with deeper root systems. 3) Turf grass requires a unique maintenance regime that creates a level of pollution risk that is higher than that created by other types of vegetation – yet another reason not to group it with non-turf types of vegetation. 4) The reasons to avoid invasive plants are many: • Invasive plants produce greater amounts of waste. Invasive plants tend to grow faster, spread beyond their original planting areas, and result in greater amounts of green waste than non-invasive species. Additionally, effective eradication of invasive plants often requires the use of herbicides which are classified as hazardous waste and must be disposed of properly at end of life. Avoiding invasive plants is a waste prevention measure for cities and counties who regulate and operate hazardous waste facilities and landfills. • Invasive plants have serious environmental impacts, including increased frequency and intensity of fire regimes in certain climes, altered soil composition, lack of dissolved oxygen in waterways, changes to natural hydrologic cycles, and threaten wildlife. While the effects of invasive plants are most severely felt in the rural areas and wildlands, evidence is that most invasive plants currently causing havoc in the west started as horticultural plantings in urban areas. Therefore, land development in urban and suburban areas have a direct correlation with invasive plant exposure throughout the region. • Management of invasive plants is expensive. In California for example, the cost of control, monitoring, and outreach is conservatively estimated to be $82 million a year (not including indirect costs associated with lost agricultural yields, increased severity of wildfires and floods, loss of productive range and timber lands, reduced land values, damage to infrastructure, and degraded recreational opportunities). • Avoiding invasive plants via building standards is effective and low-cost. Experts agree that prevention is the most effective and resource-efficient way to combat the spread of invasive plants. By requiring construction projects to avoid invasive plant species, demand for invasive plants from nurseries and suppliers will diminish over time. Further, a wide variety of alternatives to invasive plants is easily available with no cost difference, resulting in no cost increase for the design and construction industry.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5243	503.5 Landscape plan
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(3)(a) 0 percent ~~or EPA WaterSense Water Budget Tool is used to determine the maximum percentage of turf areas~~ Create a new credit independent of (3) that rewards points for the use of the WaterSense Budget Tool, e.g.: (#) The landscape is designed to reflect the water use budget determined through the EPA WaterSense Water Budget Tool. Suggested point value: 5	
Reason:	The WaterSense Budget Tool can be used to design a landscape that reflects local climate conditions. The components of the design that are considered need not be limited to turfgrass. Thus, it makes sense to move the WaterSense Budget Tool into its own credit, independent of choices made on turfgrass.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5259	503.5 Landscape plan

Submitter:	Greg Johnson, Greg Johnson Consulting
Requested Action:	Revise as follows
Proposed Change:	**503.5 Landscape plan.** A landscape plan for the lot isdeveloped to limit water and energy usewhile preserving or enhancing the natural environment. (Where "front" only or "rear" only plan isimplemented, only half of the points (rounding down to a whole number) areawarded for items 1-6)

(1)	~~Where a lot is less than 50% turf, a~~ 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.	5
(2)	Turf grass species, other vegetation, and trees are selected and specified on the lot plan that are native or regionally appropriate for local growing conditions.	~~4~~
(3)	Turfgrass is over-seeded with not less than the equivalent rate of one-half pound per acre (.22 kg/.405 ha) of white clover (trifolium repens) or similar flowering maintenance tolerant herbaceous plants.	5
~~(3)~~	~~The percentage of turf areas that is designed to be mowed is limited and shown on the lot plan. The percentage is based on the landscaped area of the lot not including the home footprint, hardscape, and any undisturbed natural areas.~~	-
-	~~(a) 0 percent~~	~~4~~
-	~~(b) greater than 0 percent to less than 20~~	~~3~~
-	~~(c) 20 percent to less than 40 percent~~	~~2~~
-	~~(d) 40 percent to 60 percent~~	~~1~~
	Practices 4 through 6 unchanged	-

Reason:

I propose the elimination of the questionable practice awarding of points for the limitation of areas of turfgrass and to instead award points for the inclusion of white clover to areas of turfgrass. This measure will improve the wildlife habitat value of turfgrass systems installed on ICC-700 compliant sites while maintaining the durability, carbon sequestration, environmental cooling, atmospheric cleansing, control of water and wind erosion, and oxygen production functions of the turfgrass component.

The addition of white clover to turfgrass is not a new idea; it was commonly added to lawns in the first half of the 20th century. Returning to this practice is suggested as an important option for sustainable turfgrass systems where the performance of the turfgrass materials and white clover are complimentary.

This approach is akin to that taken with structural building materials; we do not limit the use of steel in multi-story buildings because it yields in intense fire conditions – we install it as a component of a system with some sort of fireproofing added; we do not limit the use of concrete because of its permeability – we add water and vapor resistive barriers to create an assembly; we do not limit the use of exterior wood – we treat the wood with some other material to resist rotting. By adding flowering plants to the assembly an insect and bird friendly turfgrass system is provided.

The addition of white clover to turfgrass systems is consistent with the “bee lawn” research of the University of Minnesota’s entomology and horticulture departments.[1, 2] This research provides the basis for turfgrass systems that support pollinating arthropods and other fauna.

Research in Illinois by Dr. John Hilty indicates that 53 pollinating insect species, (33 long tongued bees, 14 short tongued bees, 6 wasps,) and 35 non-pollinating insects (9 flies, 14 butterflies, 10 skippers, 2 moths) suck the nectar of white clover.[3] Hilty also reports that many moth caterpillars, 4 species of butterfly caterpillars, and the Flower Thrip all use clover as a food source.[4]

In other white clover faunal associations Hilty states that *“the foliage and seedheads are eaten by the Ruffed Grouse, Greater Prairie Chicken, Wild Turkey, and Ring-Necked Pheasant. Some songbirds occasionally eat the seeds, including the Horned Lark and Smith Longspur (winter only). Various small mammals find the foliage and seedpods very attractive as a source of food, including the Cottontail Rabbit, Groundhog, Thirteen-Lined Ground Squirrel, and Meadow Vole. Large hoofed animals, such as the White-Tailed Deer, cattle, horses, and sheep, also graze on the foliage of clovers.”*[5]

Similarly, the USDA Forest Service identifies white clover as *“an excellent forage plant for livestock and wildlife. The leaves and flowers are grazed by grizzly bear, moose, mule, white-tailed deer, and blue grouse. It comprises nearly 6 percent of the annual forage of the white-footed vole. The seeds are eaten by the northern bobwhite, bufflehead, American coot, sage grouse, ruffed grouse, sharp-tailed grouse, horned lark, mallard, gray partridge, greater prairie chicken, willow ptarmigan, American pintail, California quail, and American robin.”*[5]

	Given white clover's global distribution, (widely naturalized in the temperate regions of the world; native of Europe, North Africa, and western and central Asia;[6] present in all 50 states and provinces of Canada[7]) its habitat value to local wildlife is orders of magnitude beyond that identified by Dr. Hilty in Illinois or to the North American species reported by the USDA Forest Service. Besides wildlife nutrition, white clover is edible by humans with minimal preparation. It is high in protein and used for soup and salads and tea. It also can be made into flour. White clover's potential contribution to urban agriculture furthers its sustainability quotient.[8] White clover is a nitrogen fixing plant, capturing nitrogen from the atmosphere and making it available as fertilizer to other plants when it dies; a sustainability boon in addition to its habitat and urban agriculture values. According to multiple sources it remains green even during drought when turfgrass is dormant; eliminates the need for herbicides because it suppresses weeds; virtually eliminates the need for fertilizer when incorporated with turfgrass because of its nitrogen contribution; requires no pesticides; and smells good. The standard seeding recommendation by the USDA Natural Resources Conservation Service is 2 lbs. per acre (43,560 ft^2) for pastures for 50% coverage.[9] A rate equivalent to 1/2 pound per acre is suggested as appropriate for overseeding lawns. The offered performance alternative to white clover, *"similar flowering maintenance tolerant herbaceous plants"* helps address sites where white clover is not ideally suited. Adding language to the Commentary to provide guidance for the selection of white clover alternatives is strongly indicated. According to the USDA's Natural Resources Conservation Service neither the Federal government nor any state government identifies white clover as a noxious weed or invasive plant although, as is for many beneficial plant species, proper management is recommended for control.10 1. http://blog.lib.umn.edu/efans/ygnews/2012/03/a-bee-lawn-how-to-have-an-inse-1.html 2. http://turf.umn.edu/category/bee-lawn/ 3. www.illinoiswildflowers.info/flower_insects/plants/white_clover.htm 4. http://www.illinoiswildflowers.info/weeds/plants/white_clover.htm 5. http://www.fs.fed.us/database/feis/plants/forb/trirep/all.html 6. http://www.efloras.org/florataxon.aspx?flora_id=110&taxon_id=200012344 7. http://plants.usda.gov/core/profile?symbol=TRRE3 8. http://en.wikipedia.org/wiki/Trifolium_repens 9. http://plants.usda.gov/factsheet/pdf/fs_trre3.pdf 10. http://plants.usda.gov/java/noxComposite **[SEE ATTACHMENTS TO PUBLIC COMMENTS FOR ADDITIONAL INFORMATION]**
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	**LogID 5069**	**503.6 Wildlife habitat**
Submitter:	Philip LaRocque, LaRocque Business Management Services, LLC	
Requested Action:	Revise as follows	
Proposed Change:	503.6 Wildlife habitat. Measures are planned to support wildlife habitat and include at least ~~two~~ one of the following:	
Reason:	The standard should encourage/reward any wildlife habitat efforts and not arbitrarily set the minimum of two specific practices to achieve any points.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5244	503.7 Environmentally sensitive areas
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Move this section to 501.1 Lot and then tier the points as follows: (1) Reward the highest level of points for avoiding environmentally sensitive areas. (2) Allow a somewhat lower number of points when a lot with environmentally sensitive areas is selected and any sensitive areas damaged by construction are fully restored to their pre-construction ecosystem functions and services. (No site can truly be restored to its pre-construction state, even when there is an attempt to do so; thus the lower number of points.) (3) Allow an even fewer number of points when environmentally sensitive areas on the lot that are degraded or disturbed by construction are enhanced or the damage is otherwise mitigated.	
Reason:	These points pertain to an important element in lot selection: avoiding environmentally important areas. Its importance should be highlighted earlier in the chapter as part of the lot selection section. Moreover, restoration and mitigation achieve different results and should not be rewarded the same level of points.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5265	505.0 Intent (Innovative Practices)
Submitter:	Matt Belcher, Verdatek Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**505.6 Resilience** Lot incorporates one or more of the following resilience options, as applicable. 1. The development of portions of the site(s) located within flood hazard areas is avoided as follows: (a) Portions of sites located within flood hazard areas are avoided. (b) Portions of sites located within areas subject to a 0.2% annual chance of (500-year) flood are avoided.	
Reason:	With the focus on future enhancement of the model codes to provide for enhanced "Resiliant" construction, It is an opportunity to include reference in this "above code" standard to incentivise innvotaive practices and process that will demonstrate best practices for eventual application into the model codes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5260	505.1 Driveways and parking areas

Submitter:	Greg Johnson, Greg Johnson Consulting
Requested Action:	Revise as follows
Proposed Change:	**505.1 Driveways and parking areas.** Driveways and parking areas are minimized or mitigated by one or more of the following:
	Practices 1-3 unchanged
	(4) Closed cell grass paving systems are utilized to reduce the footprint of surface driveways and parking areas.
	(a) 25 % to less than 50% **4**
	(b) 50% to 75% **5**
	(c) greater than 75% **6**
Reason:	Closed cell grass paving systems offer multiple environmental benefits; being completely pervious for stormwater management and offering not just passive heat mitigation, but active cooling through transpiration. Grass paving also sequesters carbon and produces oxygen. These multiple benefits deserve recognition as an innovative practice.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 5305	505.2 Heat island mitigation

Submitter:	Lorraine Ross, L Ross Consulting Inc
Requested Action:	Revise as follows
Proposed Change:	505.2 Heat island mitigation. Heat island effect is mitigated by ~~one or both of~~ the following: (1) *no change to requirements* ~~(2) 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.~~ 602.2 Roof surfaces. A minimum of 90 percent of roof surfaces, not used for roof penetrations and associated equipment, on-site renewable energy systems such as photovoltaics or solar thermal energy collectors, or rooftop decks, amenities and walkways, are constructed of one or ~~both~~ more of the following: *(1) and (2) remain unchanged* (3) 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.
Reason:	Reason: Chapter 5 addresses lot design, preparation, and development. Cool roofing does not fit. Cool roofing is more appropriately addressed in Chapter 6. In fact cool roofing requirements can also be found in chapter 6 in the current version (potential double counting). Therefore we have relocated the one compliance option for cool roofing that is found in chapter 5 but not in chapter 6 to section 602.2. The requirement has not been changed only relocated.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 5245	505.3 Density
Submitter:	Jeremy Velasquez, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	Request for addition of a higher density tier(s): (3) 21 to 34 dwelling units per acre - 11 pts (4)35 or greater dwelling units per acre - 14 pts (5) 70+ dwelling units per Acre - 17 pts	
Reason:	The existing density thresholds seem low for multi-family projects. Higher density projects do have additional environmental benefits. (reduced land usage, etc)	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

TG-3: Resource Efficiency and Indoor Air Quality

Chapter 6: Resource Efficiency

Proposal ID TBD	LogID 755	601.1 Conditioned Floor Area
Submitter:	Derek Huetinck, BeaconCrest Homes	
Requested Action:		
Proposed Change:	[No change from 2008 language.]	
Reason:	There is insufficient scientific data to demonstrate that the building of smaller homes leads to an overall decrease in energy efficiency. Smaller homes may house fewer people than larger homes, which could potentially result in more energy consumption per person than more people living in a larger home. It is inappropriate to penalize the building of larger homes without proper data to support the concept that they will lead to greater energy consumption.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5203	601.1 Conditioned floor area
Submitter:	Wes Sullens, StopWaste of Alameda County	
Requested Action:	Add new as follows	
Proposed Change:	**601.10. Design for Deconstruction**.Include construction techniques that allow for the deconstruction rather thandemolition of building features.	
Reason:	Interior walls, exterior wall systems, framing, fenestration, and mechanical systems can be built such that future renovations or tear-downs can be accomplished with a high degree of materials reuse or recycling. Designing for deconstruction is not common practice, but results in less waste to landfill and a higher and better use of materials sent for recycling from remodeling or demolition projects. They also allow for green jobs by employing trades to disassemble building elements, and can help reduce the cost of future upgrades.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5131	601.1 Conditioned floor area
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	***Multi-Unit Building Note****: For a multi-unit building, an* ~~*weighted*~~*average* ~~*of the individual*~~ *unit size*~~*s*~~ *is used for this practice and calculated by dividing the total conditioned residential square footage (units plus common areas) in the building by the number of units in the building.*	
Reason:	Large common areas of multi-unit buildings take resources to construct, operate, and maintain. Those areas should be included in awarding the floor area points for the building.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5279	601.2 Material usage
Submitter:	John Woestman, Kellen Company	
Requested Action:	Revise as follows	
Proposed Change:	601.4 Framing and structural plans. *Thisrequirement should be added to section 601.2 or section 601.4 should be deleted. Potential exists for double counting.* 601.6 Stacked stories. *This requirement should be addedto section 601.2 or section 601.6 should be deleted. Potential existsfor double counting.*	
Reason:	Reason: Section 601.2 Material usage, already takes into account optimized material usage of structural systems. Sections 601.4 Framing and structural plans, and 601.6 Stacked stories are already accounted for in the intent of 601.2 and should be deleted to avoid double counting. Alternatively adjustments could be made to section 601.2 to more clearly define the requirements of 601.4 and 601.6 within 601.2 if the committee feels it is needed.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5280	601.4 Framing and structural plans
Submitter:	John Woestman, Kellen Company	
Requested Action:	Delete without substitution	
Proposed Change:	~~601.4 Framing and structural plans.~~	
Reason:	Reason: Section 601.2 Material usage, already takes into account optimized material usage of structural systems. Sections 601.4 Framing and structural plans, and 601.6 Stacked stories are already accounted for in the intent of 601.2 and should be deleted to avoid double counting. Alternatively adjustments could be made to section 601.2 to more clearly define the requirements of 601.4 and 601.6 within 601.2 if the committee feels it is needed.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5281	601.6 Stacked stories
Submitter:	John Woestman, Kellen Company	
Requested Action:	Delete without substitution	
Proposed Change:	~~601.6 Stacked stories.~~	
Reason:	Section 601.2 Material usage, already takes into account optimized material usage of structural systems. Sections 601.4 Framing and structural plans, and 601.6 Stacked stories are already accounted for in the intent of 601.2 and should be deleted to avoid double counting. Alternatively adjustments could be made to section 601.2 to more clearly define the requirements of 601.4 and 601.6 within 601.2 if the committee feels it is needed.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5282	601.7 Site-applied finishing materials
Submitter:	John Woestman, Kellen Company	
Requested Action:	Revise as follows	
Proposed Change:	601.7 ~~Site-applied finishing~~ Prefinished materials. Prefinished building ~~Building~~materials or assemblies listed below ~~that do not require~~ have noadditional site-applied ~~material for~~ finishing material are installed~~incorporated in the building~~. *Remaining language isunchanged.*	
Reason:	Reason: Changes the title to more appropriately represent this section. Also, changes to the language have been made so that purchased prefinished materials do not get credit if additional finishing material is added to them.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5114	601.7 Site-applied finishing materials
Submitter:	Matthew Dobson, Vinyl Siding Institute	
Requested Action:	Revise as follows	
Proposed Change:	Delete 601.7(a) and (g) and replace with (a) Interior or exterior finish floor systems not7 requiring paint or stain. (g) Interior or exteior finish ceiling systems not requiring paint or stain.	
Reason:	This cleans up this section by making it more performance based and also adds in ceiling systems that could qualify for this credit.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 705	601.9 Above Grade Wall Systems
Submitter:	Gladys Quinto Marrone, BIA Hawaii	
Requested Action:		
Proposed Change:	601.9 – Would like an additional 'wall system' for bamboo	
Reason:	Bamboo is starting to take hold and is good for our mild climate.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5283	601.9 Above-grade wall systems
Submitter:	John Woestman, Kellen Company	
Requested Action:	Revise as follows	
Proposed Change:	601.9 ~~Above-grade~~ Mass wall systems. One ormore of the following ~~above-grade~~ mass wall systems that ~~providesufficient~~ meet applicable structural and thermal requirements ~~characteristics~~are used for a minimum of 75 percent of the gross exterior wall area of thebuilding: *Other text remainsunchanged.*	
Reason:	Reason: This section specifically addresses mass wall systems and therefore the title was changed to more accurately reflect the section. Also, "sufficient" is subjective so edits were made to more clearly define the intent of the section.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5218	602.1.10 Exterior Doors
Submitter:	Eric DeVito, BBRS	
Requested Action:	Revise as follows	
Proposed Change:	**602.1.10 Exterior doors.** Entries at exterior door assemblies, inclusive of side lights (if any), are covered by one of the following methods to protect the building from the effects of precipitation and solar radiation. Either a storm door or a~~A~~ projection factor of 0.375 minimum is provided. Eastern- and western-facing entries in Climate Zones 1, 2, and 3, as determined in accordance with Figure 6(1) or Appendix C, have either a storm door or a projection factor of 1.0 minimum, unless protected from direct solar radiation by other means (e.g., screen wall, vegetation). (a) installing a porch roof or awning (b) extending the roof overhang (c) recessing the exterior door (d) installing a storm door	**2 per Exterior door** **6 Max**
Reason:	This proposal expands the current credit for protecting exterior doors from precipitation and solar radiation to include the installation of storm doors. While recessing a door or installing awnings or overhangs may provide some protection for exterior doors against the elements, storm doors can provide the same or better protection. Moreover, because of design constraints or local conditions, overhangs or awnings may not be realistic options. This proposal would encourage the installation of storm doors to provide an additional protective barrier in projects that might otherwise leave exterior doors completely exposed to the elements. Although this proposal focuses on resource efficiency, and more specifically, moisture control for building penetrations, storm doors also provide a variety of other benefits. Storm doors with screens can be used to save energy or provide spot ventilation to improve indoor air quality if operated correctly. Although we are not proposing credits as part of this proposal for these other qualities, there are many good reasons to provide an incentive to install storm doors over exterior doors.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5135	602.1.12 Roof overhangs
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**602.1.12 Roof overhangs.** Roof overhangs, in accordance with Table 602.2, are provided over a minimum of 90 percent of exterior walls to protect the building envelope. **Table 602.2** **Inches of ~~Rainfall~~ Precipitation(1)**	
Reason:	This will make the column heading consistent with the footnote and the figure. Unless the intent is to only be concerned with rainfall, then the footnote should be revised as well as the figure.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5054	602.1.12 Roof overhangs
Submitter:	Chuck Arnold, Home Innovation	
Requested Action:	Delete and substitute as follows	
Proposed Change:	Table 602.1.2 Inches of ~~Rainfall~~ Precipitation	
Reason:	The foot note (1) states precipitation and Figure 6(2) details annual precipitation which includes snow and hail, not just rainfall.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5286	602.1.13 Ice barrier
Submitter:	John Woestman, Kellen Company	
Requested Action:	Revise as follows	
Proposed Change:	602.1.13 Ice barrier. ~~In areas where there has been a history of ice forming along theeaves causing a backup of water, an~~ An ice barrier is installed inaccordance with the ICC IRC or IBC ~~at roof eaves of pitched roofs andextends a minimum of 24 inches (610 mm) inside the exterior wall line of thebuilding~~.	
Reason:	Reason: This is section applies to new construction where there is no history. Therefore the first portion of the sentence has been deleted. Also, since there is a reference to the IRC and IBC requirements there is no reason to restate requirements that could change and become out of sync therefore the last portion of the sentence is deleted.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5284	602.1.4.2 Conditioned crawlspace
Submitter:	John Woestman, Kellen Company	
Requested Action:	Revise as follows	
Proposed Change:	602.1.4.2 Crawlspace that is built as a conditioned area issealed to prevent outside air infiltration and provided with conditioned air ata rate not less than 0.02 cfm (.009 L/s) per square foot of horizontal area andone of the following is implemented: (1) a concrete slabover 6 mil polyethylene ~~or polystyrene~~ sheeting lapped a minimum of 6inches (152 mm) and taped at the seams or polystyrene insulation boardstaped or otherwise sealed at the seams. (2) 6 mil polyethylene sheeting lapped a minimum of 6 inches(152 mm) and taped at the seams.	
Reason:	Reason: This language is currently flawed. Polyethylene sheeting and polystyrene insulation boards are different in nature and installation. This revised language corrects the flaws.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5309	602.1.5 Termite barrier
Submitter:	Lorraine Ross, L Ross Consulting Inc	
Requested Action:	Revise as follows	
Proposed Change:	602.1.5 Termite ~~barrier~~ control system. One of the following termite control systems is provided in geographical areas that have subterranean termite infestation potential that is moderate to heavy or very heavy in accordance with Figure 6(3): (1) A continuous physical foundation termite barrier ~~used~~ with no or a low toxicity treatment ~~or with no chemical treatment~~ is installed ~~in geographical areas that have subterranean termite infestation potential determined in accordance with Figure 6(3)~~. (2) A low toxicity bait and kill termite treatment plan is selected and implemented.	
Reason:	Reason: There are innovative and very effective methods of mitigating termite infestation and damage. This proposal recognizes another environmentally friendly method. Bait and kill treatment plans do not inject large quantities of chemicals in the ground rather they use a small quantity of solid bait that either kills the termites that eat it or returns the termites to the colony to kill the entire population. Currently the language is not clear in regard to the level of probability that determines the need for compliance with this section. Additional clarification was added.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5323	602.1.7
Submitter:	Rob Brooks, Rob Brooks & Associates, LLC	
Requested Action:	Add new as follows	
Proposed Change:	602.1.7.3 Moisture control and condensation potential of the building envelope that has been analyzed by hygrothermal study, practice or model representative of the local climatic conditions and building air exchange rate.	
Reason:	This credit is designed to encourage builders to use assemblies that have been evaluated for their local climatic conditions.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5285	602.1.9 Flashing
Submitter:	John Woestman, Kellen Company	
Requested Action:	Revise as follows	
Proposed Change:	602.1.9 Flashing. *Charging section remains unchanged.* *(1) remains unchanged* (2) ~~All window~~ Window and door head and jambflashing is ~~self-adhered flashing complying with AAMA 711-07~~ installedin accordance with fenestration and flashing manufacturer's installationinstructions. *(3) through(7) remainunchanged*	
Reason:	This section currently limits product choice unnecessarily. There are new innovative products in the market that should not be disadvantaged.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5158	602.1.9 Flashing
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Make part (6), "Through-wall flashing is installed at transitions between wall cladding materials or wall construction types," mandatory.	
Reason:	Transitions between materials are typically continuous and present a great opportunity to insert flashing to allow for water to drain out of the walls and prevent water damage. Providing through wall flashing at transitions between wall cladding materials is just good practice and should be mandatory.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5306	602.2 Roof surfaces
Submitter:	Lorraine Ross, L Ross Consulting Inc	
Requested Action:	Revise as follows	
Proposed Change:	602.2 Roof surfaces. A minimum of 90 percent of roof surfaces, not used for roof penetrations and associated equipment, on-site renewable energy systems such as photovoltaics or solar thermal energy collectors, or rooftop decks, amenities and walkways, are constructed of one or ~~both~~ more of the following: *(1) and (2) remain unchanged* (3) 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.	
Reason:	Reason: Chapter 5 addresses lot design, preparation, and development. Cool roofing does not fit. Cool roofing is more appropriately addressed in Chapter 6. In fact cool roofing requirements can also be found in chapter 6 in the current version (potential double counting). Therefore we have relocated the one compliance option for cool roofing that is found in chapter 5 but not in chapter 6 to section 602.2. The requirement has not been changed only relocated.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5246	602.3 Roof water discharge
Submitter:	Jeremy Velasquez, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	Remove or revise the 5' rule regarding downspout extensions.	
Reason:	This is a liability issue in MF. As they may extend to "right of way" areas. There is also potential for damage to downspouts or extensions that would reduce the designed flow rates for drainage from the downspout system. Just installing a standard G & DS system seems adequate to remove bulk water away from the buildings.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5055	602.4.1 Finished grade slope minimum 6 inches over 10 feet
Submitter:	John Schneider, City of Moundsville	
Requested Action:	Revise as follows	
Proposed Change:	Coordinate 2% slope requirements with the 2012 IRC R401.3. IRC allows a 2% slope only with impervious surfaces. NGBS indicates any surfaces can be a minimum of 2% slope in "tight spaces".	
Reason:	Coordinate with 2012 IRC R401.3	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5159	603.2 Salvaged materials
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Reclaimed and/or salvaged materials and components are used consistent with the requirements of local building codes. The total material value and labor cost of salvaged materials is equal to or exceeds 1 percent of the total construction cost.	
Reason:	Reuse is a high-priority for materials management, but materials have to be reused in a safe and protective manner. One caution is that potentially harmful materials that had historically circulated in the construction and maintenance of buildings could be reintroduced into the building stock. Another concern is that depending on the application, the structural and energy-efficiency performance of certain recovered materials may not meet the requirements of building codes. The standard should reiterate the importance of reusing salvaged materials and components meet local code requirements.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5136	604.1 Recycled content
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	revise by adding (Points awarded for only one pair of major components and one pair of minor components.)	
Reason:	It is too often assumed that this practice affords an unlimited number of points based on the number of pairs of products that a home contains.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5274	604.1 Recycled content
Submitter:	Shelly Leonard, Green Space Consultants LLC	
Requested Action:	Add new as follows	
Proposed Change:	Common minor elements include, but not limited to: • Doors: interior and exterior • Trim: interior and exterior • Railings: interior and exterior • Exterior decking • Exterior siding/materials (e.g. wood siding, masonry, stucco, etc) • Roof/attic insulation • HVAC equipment, ductwork and water heaters • Appliances • Cabinets • Plumbing fixtures and pipe • Electrical fixtures and wiring • Finished flooring (hardwood, tile), carpet and padding covering <50% of floor area. • Driveway and walkway: base and finished surface Common major elements include, but not limited to: • Footings, foundation & crawlspace • Slab and slab base • Floor system structure and/or floor decking • Roof structure and/or decking • Exterior wall system structure and/or exterior sheathing • Exterior wall coverings (siding, masonry, stucco, etc.) • Interior wall system structure • Finished flooring (hardwood, tile), carpet and padding covering >50% of floor area. • All insulation excluding roof/attic insulation	
Reason:	Include major factors and provide as much clarity as possible in the practice description.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5318	604.1 Recycled content
Submitter:	Craig Conner, Building Quality	
Requested Action:	Delete without substitution	
Proposed Change:	~~604~~	
Reason:	This section is hard to fail. It recognizes individual products that are recycled. However, these products are in aggregate so common as to make it difficult to build without getting at least partial points from this section. For example, consider steel. Steel averaged 88% recycled content in 2012 (http://www.recyclesteel.org/Recycling%20Resources/~/media/Files/SRI/Releases/003%20Steel%20Recycling%20Rates%20 Graphs.pdf). Common steel products, such as rebar, include more than 95% recycled content. There are products that do deserve encouragement. Cellulose insulation includes a substantial recycled component. High fly ash concrete utilizes a substantial amount of what is otherwise a waste material. High recycled-glass content fiberglass uses waste glass that doesn't otherwise have much of a market. If not deleted this section should be reformatted to focus on products that could greatly increase the use of what is now usually a waste product.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 708	605.0 Intent (Recycled Construction Waste)
Submitter:	Gladys Quinto Marrone, BIA Hawaii	
Requested Action:		
Proposed Change:	605 – accept builder photo documentation, or other proof, that material has been 'donated' for reuse or recycling rather than require proof from a certified recycler.	
Reason:	Hawaii's recycling management is generally poor. Most builders simply "donate" to the bins at local schools for recycling, but have no receipts for doing so.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 629	605.0 Intent (Recycled Construction Waste)
Submitter:	Kathleen Petrie, City of Seattle, Department of Planning and Development	
Requested Action:		
Proposed Change:	RECYCLED CONSTRUCTION and DEMOLITION WASTE	
Reason:	The section 605 heading should be revised to include demolition.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 631	605.0 Intent (Recycled Construction Waste)
Submitter:	Kathleen Petrie, City of Seattle, Department of Planning and Development	
Requested Action:		
Proposed Change:	**605.0 Intent.** Nonhazardous waste generated during construction and demolition is recycled or reused. All waste classified as hazardous shall be properly handled and disposed. (Points not awarded for hazardous waste removal.)	
Reason:	All nonhazardous waste should be recycled or reused, regardless of whether it is the result of construction or demolition activity. Should the term "hazardous" be defined?	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 638	605.0 Intent (Recycled Construction Waste)
Submitter:	Kathleen Petrie, City of Seattle, Department of Planning and Development	
Requested Action:		
Proposed Change:	None	
Reason:	General Comment: It would be good to see the waste diversion section further developed to include demolition and land-clearing diversion, higher percentages of diversion, the disallowance of alternative daily cover as diversion, and restrictions on percentage of diversion that can be used as fuel end markets.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 628	605.1 Construction Waste Management Plan
Submitter:	Kathleen Petrie, City of Seattle, Department of Planning and Development	
Requested Action:		
Proposed Change:	**605.1 Construction and demolition waste management plan.** A construction and demolition waste management plan is developed, posted at the jobsite, and implemented with a goal of recycling or salvaging a minimum of 50 percent (by weight) of nonhazardous construction and demolition waste.	
Reason:	There should be an attempt to recycle or reuse all nonhazardous waste, whether it be construction or demolition. There should be an attempt to recycle or reuse all nonhazardous waste, whether it be construction or demolition. The State of California, draft IgCC, Portland, OR, Chicago, IL and Boulder, CO all have a diversion rates of 50%, or greater	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5287	605.1 Construction waste management plan
Submitter:	John Woestman, Kellen Company	
Requested Action:	Revise as follows	
Proposed Change:	605.1 Construction waste management plan. A construction waste management plan isdeveloped, posted at the jobsite, and implemented ~~with a goal of~~ to recycle or salvage ~~recycling orsalvaging~~ a minimum of 50 percent (by weight) of construction waste.	
Reason:	Reason: Having a “goal” is not appropriate for point attainment. This section was edited to clarify the requirement.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5160	605.1 Construction waste management plan
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	A construction waste management plan is developed, posted at the jobsite, and implemented with a goal of recycling or salvaging a minimum of 50 percent (by weight) of construction waste, excluding land-clearing waste.	
Reason:	Land-clearing waste should be excluded from the 50 percent calculation. Soil, vegetation, and rocks are heavy, bulky materials. When included in the total weight used to calculate the recycling rate, it can reduce the amount of higher-value materials, such as wood, concrete, and drywall, that is ultimately recycled.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5204	605.1 Construction waste management plan
Submitter:	Wes Sullens, StopWaste of Alameda County	
Requested Action:	Revise as follows	
Proposed Change:	A construction waste management plan isdeveloped, posted at the jobsite, and implemented with a goal of recycling orsalvaging a minimum of 50 percent (by weight) of construction waste. Land clearingdebris and materials that are processed for recycling but are used asalternative daily cover at landfills shall be excluded from the 50 percent requirement.	
Reason:	Materials that result from land clearing activity are often heavy and can skew results for other types of higher-value recycling and salvaging. Additionally, these materials are typically not landfilled in practice because they are expensive to tip, and robust markets are available to accept and recycle those land clearing materials at a lower cost than landfilling. "Alternative Daily Cover" (ADC) is cover material other than earthen material placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging. The ADC materials that result from building are byproducts of construction and demolition waste processing facilities, yet they are not actually recycled (they do not re-enter the materials cycle) and are essentially deposited in landfills and stay there forever. Therefore, ADC should not be considered recycling in green building standards. ASHRAE 189.1, GreenPoint Rated, and LEEDv4 have all disallowed ADC to count as recycling, and so should this standard. Achieving 50% recycling by not including ADC and land clearing debris is widely available with jobsite best practices (source separation of materials on-site and sending those materials to specific recycling facilities), and by sending the remaining mixed-waste loads to facilities that sort offsite.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5161	605.3 Recycled construction materials
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Construction materials (e.g., wood, cardboard, metals, drywall, plastic, asphalt roofing shingles, or concrete) <u>that cannot be salvaged and reused onsite</u> are recycled offsite.	
Reason:	Onsite salvage and reuse is preferred to offsite recycling because of reduced hauling and transportation impacts; it should be emphasized that reuse is a higher priority.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5056	606.1 Biobased products
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**606.1 Biobased products.** The following biobased products are used: **(a)** certified solid wood in accordance with Section 606.2 **(b)** engineered wood **(c)** bamboo **(d)** cotton **(e)** cork **(f)** straw **(g)** natural fiber products made from crops (soy-based, corn-based) **(h)** ~~products with the minimum biobased contents of the USDA 7 CFR Part 2902~~ **(i)** other biobased materials with a minimum of 50 percent biobased content (by weight or volume) **(1)** Two types of biobased materials are used, each for more than 0.5 percent of the project's projected building material cost. **(2)** Two types of biobased materials are used, each for more than 1 percent of the project's projected building material cost. **(3)** For each additional biobased material used for more than 0.5 percent of the project's projected building material cost.	
Reason:	USDA biobased criteria is based only on the organic part of the material. Materials that are largely inorganic can qualify under the USDA as biobased when only a small fraction of the material is biobased. Items (a)-(g) are essentially 100% biobased and item (i) requires at least 50%. While it may be worth recognizing USDA biobased products they should not get the same number of points as something that is over 50% biobased.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5083	606.2 Wood-based products
Submitter:	Michael Martin, National Wood Flooring Association	
Requested Action:	Add new as follows	
Proposed Change:	606.2 Wood-based products. Wood or wood-based products arecertified to the requirements of one of the following recognized programs: (a)American Forest Foundation's American Tree Farm System (ATFS) (b)Canadian Standards Association's *SustainableForest Management System Standards* (CSA Z809) (c)*Forest Stewardship Council* (FSC) (d)*Program for Endorsement of ForestCertification Systems* (PEFC) (e)*Sustainable Forestry Initiative Program*(SFI) (f)National Wood Flooring Association's *ResponsibleProcurement Program* (RPP) (g)other product programs mutually recognized by PEFC	
Reason:	Products certified to the requirements of the NWFA's RPP program are domestic hardwood flooring products that are independently verified as originating from "U.S. Renewing Forests": U.S. states whose hardwood forests are in surplus, i.e. they are producing more timber than is being removed or lost through harvest and mortality. As wood flooring is a product used on home building, the RPP is designed such that all products that are verified as being from "U.S. Renewing Forests" must gradually transition to FSC certification over time. FSC is a forest certification program already recognized under the National Green Building Standard. For all of these reasons, we believe it makes sense to recognize the NWFA RPP as a program in section 606.2 of the standard. **[SEE ATTACHMENTS TO PUBLIC COMMENTS FOR ADDITIONAL INFORMATION]**	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5221	606.2 Wood-based products
Submitter:	Eric DeVito, BBRS	
Requested Action:	Revise as follows	
Proposed Change:	**606.2 Wood-based products.** Wood or wood-based products are certified to the requirements of one of the following recognized product programs: (a) American Forest Foundation's *American Tree Farm System*® (ATFS) (b) Canadian Standards Association's *Sustainable Forest management System Standards* (CSA Z809) (c) *Forest Stewardship Council* (FSC) (d) *Program for Endorsement of Forest Certification Systems* (PEFC) (e) *Sustainable Forestry Initiative*® *Program* (SFI) (f) Other product programs mutually recognized by PEFC	
	(1) A minimum of two certified wood-based products are used for minor elements of the building (e.g. all trim, cabinetry, windows, doors, or millwork).	**3**
	(2) A minimum of two certified wood-based products are used in major elements of the building (e.g., walls, floors, roof).	**4**
Reason:	This proposal clarifies that wood-framed windows and wood doors may also receive credit for the use of certified wood. We believe that wood-framed windows and doors already qualify for credit under this section, but code officials may not be awarding credits, because windows and doors are not listed as examples under either minor or major elements. For now, we have proposed including them in the category of "minor elements" of the building, although a home with a high glazing area percentage could arguably fit into the "major elements" definition. At a minimum, the addition of these two examples will provide some direction for the code official.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5162	607.1 Recycling
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	607.1 Recycling and Composting. Recycling and composting ~~is~~ are facilitated by one or more of the following methods:	
Reason:	Composting is not considered the same thing as recycling. Since the intent of the section is to facilitate composting as well as recycling, composting should be referenced by name in Section 607.1.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5288	607.1 Recycling
Submitter:	John Woestman, Kellen Company	
Requested Action:	Revise as follows	
Proposed Change:	607.1 Recycling. Recycling ~~by the occupant~~ is facilitated by one or more of thefollowing methods: *Remaining text isunchanged.*	
Reason:	Reason: deleting the undefined term “occupant” as the use of the term does not help to clarify who the recycling requirement is intended to apply to.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5275	609.1 Regional materials
Submitter:	Shelly Leonard, Green Space Consultants LLC	
Requested Action:	Revise as follows	
Proposed Change:	609.1 Regional Materials. Regional materials are used for major elements ~~or components~~ of the building and include materials and components that originate within 500 miles of the construction site if transported by truck, or within 1,500 miles if transported by rail.	
Reason:	Include major factors and provide as much clarity as possible in a succinct practice description.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5319	609.1 Regional materials
Submitter:	Craig Conner, Building Quality	
Requested Action:	Delete without substitution	
Proposed Change:	~~609~~	
Reason:	This is not well thought out. Consider a few cases. Concrete is typically 60% to 75% aggregate. (http://www.cement.org/cement-concrete-basics/how-concrete-is-made) The concrete aggregate, stone and sand, will always be local, certainly well within the 500 mile radius allowed for “regional” materials. Easy points. How about wood. I live a fairly treeless semi desert on the eastern and brown side of Washington state. Local trees occur in parks and landscape. However the 500 mile radius around me includes all the trees in Washington and Oregon, and most in Idaho. Most wood I would likely buy is regional? Better yet, I like the sand on the beaches of Northern California and southern British Columbia. Since those are within 1500 miles of me by boat, both are regional and I should get credit for importing them for use in local homes?? This does not make sense. In general the market will charge me for transportation and lead me to better decisions than this part of the NGBS.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5137	609.1 Regional materials
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**Regional materials.** Regional materials are used for major ~~elements or~~ components of the building.	
Reason:	There is no definition of a major element. It is not clear how an element differs from a component.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5051	610.1 Life cycle analysis
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	A life cycle analysis (LCA) tool is used to select environmentally preferable products, ~~or~~ assemblies, or ~~an LCA is conducted on the~~ entire building designs. Points are awarded in accordance with Section 610.1.1 or 610.1.2. Only one method of analysis or tool may be utilized. The reference service life for the building is 60 years for any life cycle analysis tool. Results of the LCA are reported in the manual required in Section 1001.1 or 1003.1(1)of this Standard in terms of the environmental impacts listed in this practice and it is stated if operating energy was included in the LCA.	
Reason:	It does not seem reasonable to award 15 point for doing an LCA for an entire building when the LCA shows that that building is environmentally terrible. It seems like a comparison should be made to appropriate alternative designs as is required for products. 1003.1 is not applicable to single family homes. Adding the reference to 1001.1 allows SF homes to comply with this practice. A similar change should be made to the chapter 11 practice.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5317	610.1.2 Life cycle analysis for a product or assembly
Submitter:	Craig Conner, Building Quality	
Requested Action:	Delete and substitute as follows	
Proposed Change:	~~610.1.2~~ 610.1.2 A minimum of 10 different permanently installed materials or products shall include an environmental product declaration. The environmental product declaration shall be based on externally verified data. The environmental product declaration shall be certified by an approved agency or third party in accordance with CAN/CSA-ISO 14025 and ISO 21930. Add new definition as follows: ENVIRONMENTAL PRODUCT DECLARATION. A report for a product or material based on a product's life cycle and other relevant information relevant to its environmental impact. Add new standard(s) as follows: CSA CAN/CSA-ISO 14025-07(R2012) Environmental labels and declarations – Type III environmental declarations – Principles and procedures (Adopted ISO 14025:2006, first edition, 2006-07-01) ISO 21930-2007 Sustainability in building construction – Environmental declaration of building products	
Reason:	This change substitutes Environmental Product Declarations (EPDs) for LCAs. The concept is similar, but EPDs are better defined. EPDs are emerging as one way to compare the environmental performance of competing products, including impacts from manufacturing and ultimately disposal. EPDs would include all the product attributes in the existing section. The use of common metrics for a specific product type encourages manufacturers to reduce their environmental impacts by making it more likely that product buyers will compare competing products based on a well defined set of environmental attributes. Complying with the new section is simple. No new building level calculations are required. If there are10 EPDs for products in the building, the criteria would be met. ANSI has begun an accreditation program for organizations that certify EPDs. As written, this is not doable or at least will yield a questionable verdict. It says to compare products. Do I get to pick the worst product I can find in a particular category and compare mine to that? That is not useful. There is no obvious base case as it is written.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5115	610.1.2.1 Product LCA
Submitter:	Matthew Dobson, Vinyl Siding Institute	
Requested Action:	Revise as follows	
Proposed Change:	Section should be reviewed and updated according to latest LCA accepted practices and possibly include the use of Environmental Product Declarations and Product Category Rules.	
Reason:	Since this was placed in the NGBS there has been substantial steps with this science. The standard should be cutting edge on this issue.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5163	610.1.2.1 Product LCA
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Add two new impact categories: (e) Material Use and (f) Waste	
Reason:	Industry-wide efforts to promote the management of materials and products on a life-cycle basis are current. These life-cycle efforts ensure that materials are used more efficiently and effectively. To that end, the analyses need to provide us with adequate measures that capture material use and recovery. Using less material and recovering more is crucial to our economic and environmental future. Material use and waste are two additional impact categories that should be included.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5316	610.1.2.2 Building assembly LCA
Submitter:	Craig Conner, Building Quality	
Requested Action:	Delete without substitution	
Proposed Change:	~~610.1.2.2~~	
Reason:	This section is vaguely defined, and lacks a minimum or a base case to compare the report to. The requirements or consequences do not go beyond preparing a complex report that has nothing to compare to. A assembly life cycle assessment is impractical. How is the end user going to demonstrate that the assembly improved without a clear base casel? The standard that has been referenced, ISO 14044 states in its Section 1 (Scope) “This International Standard is not intended for contractual or regulatory purposes or registration and certification." A building code is a regulation.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5266	611.1 Manufacturer's environmental practices (Innovative Practices)
Submitter:	Matt Belcher, Verdatek Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**611.4 Resilience** Dwelling incorporates one or more of the following resilience options, as applicable. Points for items 1 through 4 shall be granted only where such products are not required per the applicable building code. 1. High-wind resistant or impact resistant entry doors or garage doors are installed. 1. Impact resistant glazing is installed. 2. High-wind resistant or impact resistant wall claddings are installed. 3. High-wind resistant or impact resistant roof coverings are installed. 4. The building is constructed in accordance with an approved above-code mitigation program (e.g. IBHS Fortified, Resilience Star or My Safe Florida Home). Lot incorporates one or more of the following resilience options, as applicable. 5. The entire building is constructed using flood resistant materials. 6. The building is constructed with its lowest floor at least one foot above the elevation required by the building code or adopted by the jurisdiction, whichever is higher. 7. The building is constructed with its lowest floor at least two feet above the elevation required by the building code or adopted by the jurisdiction, whichever is higher. 8. The building is constructed with its lowest floor at least three feet above the elevation required by the building code or adopted by the jurisdiction, whichever is higher. 9. The building is located in Zone A and constructed on an open foundation system (pile foundations or isolated piers). 10. The building is constructed in accordance with an approved above-code flood mitigation program (e.g. IBHS Fortified, etc.).	
Reason:	With the focus on future enhancement of the model codes to provide for enhanced "Resiliant" construction, It is an opportunity to include reference in this "above code" standard to incentivise innvotaive practices and process that will demonstrate best practices for eventual application into the model codes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5073	611.2 Sustainable products
Submitter:	Josh Jacobs, UL	
Requested Action:	Revise as follows	
Proposed Change:	(5) 50% or more of the gypsum board installed (by square feet) is certified to UL 100 ~~ULE ISR 100~~. (6) 50% or more of the door leafs installed (by number of door leafs) is certified to UL 102 ~~ULE ISR 102~~.	
Reason:	This is an update to existing references. UL 100 and 102 were finalized and published shortly after final voting for the NAHB National Green Building Standard was completed.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5077	611.2 Sustainable products
Submitter:	Josh Jacobs, UL	
Requested Action:	Add new as follows	
Proposed Change:	(8) All clothes washers installed prior to occupancy are certified to AHAM 7003-2013/CSA SPE 7003-13/UL 7003. Points 1 (9) All refrigeration appliances installed prior to occupancy are certified to AHAM 7001-2012/CSA SPE-7001-12/UL 7001. Points 1	
Reason:	This is an addition of two more types of multi-attribute product standards which can help to bring in more sustainable products to the home.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5310	Other for Chapter 6 (include section number and title below)
Submitter:	aaron gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	605.4 Recycled Demolition Materials Demolition Materials (excluding Site clearing) are recycled off-site.	
Reason:	For projects (new construction or remodel) that are being built on Sites with existing structures substantial amounts of waste can be generated during the demolition phase of construction. Projects should be rewarded for dealing with this waste appropriately in the same way Construction Waste Diversion is rewarded.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5308	Other for Chapter 6 (include section number and title below)
Submitter:	aaron gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	611.4 E-waste Diversion during demolishing	
Reason:	Electronic components (computers, circuit boards, HVAC controls, etc.) contain valuable precious metals as well contaminants such as lead, cadmium, beryllium, or brominated flame retardants. Such e-waste is not easily included as part of the traditional waste streams (trash or recycle) and projects should be rewarded for dealing with these products appropriately when they are encountered during demolition of existing structures (for new construction or remodel).	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5157	Other for Chapter 6 (include section number and title below)
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Add new as follows	
Proposed Change:	**601.10**. **Design for Disassembly**. Incorporate in the design interior elements, such as non-load-bearing walls, partitions, lighting and electric systems, suspended ceilings, raised floors and interior air distribution systems that can be disassembled, re-configured, and reused. Utilize connections that allow disassembly, such as reversible connections (e.g. screws, bolts, nails, clips).	
Reason:	Reason Statement: The intent of 601 is to utilize design and construction practices that minimize the environmental impact of the building materials and to incorporate environmentally efficient building systems and materials. Employing design elements that can be disassembled, re-configured and reused, and utilizing connections that are reversible are important green building practices to ensuring buildings systems are environmentally efficient.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5151	Other for Chapter 6 (include section number and title below)
Submitter:	Stephen J Holzer, eM8s, LLC	
Requested Action:	Add new as follows	
Proposed Change:	**611.4 Building Information Modeling(BIM)** ProjectTeam uses BIM as primary means to coordinate planning, design, construction andoperations for residential buildings in order reduce material waste and errors.	
Reason:	Building Information Modeling (BIM) is a computer generated model based process that simulates planning, design, construction and operations for buildings. It is a single repository for both three-dimensional, two-dimensional, and material properties information that allows data interoperability of all stakeholders to better inform design and construction decisions with the goal of producing the best product possible. This information technology will increase design and construction efficiencies and decrease costs for builders and end users. BIM may also facilitate better communication, collaboration and coordination among building industry professionals and trades working on the same project. Credit should be given to Builders utilizing the open industry standards as defined in the National Building Information Modeling Standard.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5078	Other for Chapter 6 (include section number and title below)
Submitter:	Josh Jacobs, UL	
Requested Action:	Add new as follows	
Proposed Change:	**611.4 Product Declaration**. A minimum of 10 different products installed in the building project, at the time of certificate of occupancy, shall comply with one of the following sub-sections.~~:~~ Declarations, reports, and assessments shall be submitted to the AHJ and shall contain documentation of the critical peer review by an independent third party, results from the review, the reviewer's name, company name, contact information, and date of the review. Points 5 **611.4.1 Industry-wide Declaration.** A Type III industry-wide environmental product declaration (EPD) shall be submitted for each product. Where the program operator explicitly recognizes the EPD as representative of the product group on a National level, it is considered industry-wide. In the case where an industry-wide EPD represents only a subset of an industry group, as opposed to being industry-wide, the manufacturer shall be explicitly recognized as a participant by the EPD program operator. All EPDs shall be consistent with ISO Standards 14025-and 21930 with at least a cradle-to-gate scope. Each product complying with this section shall be counted as one product for compliance with Section 611.4 **6.11.4.2 Product Specific Declaration.** A product specific Type III EPD shall be submitted for each product. The product specific declaration shall be manufacturer specific for an individual product or product family. All Type III EPDs shall be certified as complying, at a minimum, with the goal and scope for the cradle-to-gate requirements in accordance with ISO Standards 14025 and 21930. Each product complying with this section shall be counted as two products for compliance with Section 611.4.	
Reason:	The proposal allows for rewarding the builder when they use products that have been transparent about their environmental impact. Environmental product declarations (EPD) are a tool that is gaining acceptance in green design standards as an accepted way for a manufacturer to communicate the impacts that their products and their manufacturing have on the environment. The goal of EPDs is to provide designers, purchasers, and builders with data that will inform their purchasing decisions – much the way nutritional labels on food packaging does today.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5269	901.1.4 Gas fireplaces and direct heating equipment vented outdoors
Submitter:	Ted A. Williams, American Gas Association	
Requested Action:	Revise as follows	
Proposed Change:	**901.1.4** Gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the NFPA 54, ICC IFGC, or the applicable local gas appliance installation code. ~~Gas-fired fireplaces and direct heating equipment are vented to the outdoors.~~ [a duplicative proposed change on **11.901.1.4** is submitted.]	
Reason:	Banning unvented or "vent-free" fireplaces, the net effect of this "mandatory" requirement, have never been justified in terms of environmental criteria consistent with a “green” standard. During deliberations on the 2012 Edition, air pollutant emissions associated with use of such products were not documented or referenced in terms of concentrations or specific effects on the indoor environment or human health. Likewise, the ban does not address positive environmental benefits associated with virtual 100% thermal efficiency of heating in the installed space and reduced need for central heating from spot heating afforded by unvented combustion heating appliances, both of which reduce overall energy demand and externalities (including total air emissions) associated with less efficient heating approaches. These positive effects should be evaluated on balance with hypothesized negative effects associated with altered indoor air concentrations of the identified contaminants. No effort is made or documented to assess this balance. While points are proposed for use of these products, their banning from green building represents unbalanced and non-technical consideration of the net effects of their installation and use. The ban appears to appeal to simplistic views of environmental acceptability based on an “additive” impact on indoor air quality from operation of unvented combustion appliances. It ignores important design and product standardization considerations. For example, appliance sizing and, most directly, heat gain beyond tolerable limits in tight buildings impose a fundamental limit on the generation of combustion products. The tighter the installation location, the lower the firing rate and duration the appliance can be operated while avoiding intolerable temperatures. This principle has been applied to gas-fired residential cooking appliances since 1921 (ANSI Standard Z21.1), which associated combustion product loadings with the tightness of kitchens, emission factors from the appliances, and heat rise tolerances for occupants. A technical review in 1994, reviewed by U. S Consumer Product Safety Commission and considering modern air change rates, combustion product exposure criteria, and ASHRAE thermal comfort requirements confirmed the continued efficacy of this approach. Unvented fireplaces are design certified in the same manner. If unvented combustion appliances represent a public health or safety hazard, they should be prohibited from all occupancies (not just “green” buildings) because to do less would imply a toleration of unequal treatment of occupants with respect to health and safety. Standards development for “green” buildings would be better conducted on technically justified grounds and not focus on banning products based on heuristic arguments. It should be noted that proposed Addendum be to ASHRAE Standard 189.1, “Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings” would have imposed a similar ban of unvented fireplaces, but the Addendum has been returned to the 189.1 Standard Project Committee following public review and receipt of negative comments.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5252	901.1.4 Gas fireplaces and direct heating equipment vented outdoors
Submitter:	Frank A. Stanonik, AHRI	
Requested Action:	Revise as follows	
Proposed Change:	901.1.4. Gas-fired fireplaces and direct heating equipment is listed and is installed in accordance with the NFPA 54, ICC IFGC, or the applicable local gas appliance installation code. ~~Gas-fired fireplaces and direct heating equipment are vented to the outdoors.~~	
Reason:	Reference to the applicable installation code covers all aspects of the safe and proper installation of gas appliances, including provisions for combustion and ventilation air supply and venting. The last sentence as it applies to vented gas fireplaces and direct heating equipment is redundant. This deletion also removes the unjustified situation presented by the current standard that a home which has a gas-fired unvented or vent-free heater is automatically disqualified from carrying any level of “Green” designation regardless of any other aspects of the home’s design or features. The provisions in Section 902.2, Building ventilation systems, and Appendix B, Whole Building Ventilation System Specifications, address several different ways to provide ventilation to a residence. It is a technical fact that some of those methods of providing ventilation to the residence will allow the operation of a gas–fired unvented heater with no detrimental effect on the air quality in the residence. This proposal does not promote the use of unvented gas heaters. Rather it allows the builder to decide whether to install such equipment and the corresponding ventilation system, as required to meet both the combustion and ventilation air requirements of the heaters installation instructions and the ventilation provisions of this Green Building Standard.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5211	901.10 Interior adhesives and sealants
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	SCAQMD Rule 1168 in accordance with Table 901.10(3),~~excluding products that are sold in 16 ounce containers or less and are regulated by the California Air Resources Board (CARB) Consumer Products Regulations.~~	
Reason:	This practice is not clear regarding what is excluded. It seems like if the product does not comply with the emissions of Table 901.10(3) then it should not be excluded just because is sold in 16 oz or less containers. If the intent is to give points for 16 oz products that are CARB regulated then then "excluding" should be changed to "or".	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5212	901.12 Carbon monoxide alarms
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**901.12 Carbon monoxide (CO) alarms.** ~~Where not required by local codes,~~ a carbon monoxide (CO) alarm is installed in a central location outside of each separate sleeping area in the immediate vicinity of the bedrooms.....	
Reason:	We get lots of questions regarding why this practice only gets points when not required by local code. It seems inconsistent that the same house could achieve a different level simply because it is on one side of a jurisdictional boundary or the other side. Other confusion arises when the home is all electric and there is no fossil fuel combustion or attached garage. Perhaps the practice should be changed to mandatory when required by the IRC. Clarification on this practice would be helpful.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5143	901.2.1 Solid fuel-burning fireplaces, inserts, stoves, and heaters
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	901.2.1(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are EPA ~~certified~~ Phase 2 Qualified.	
Reason:	The EPA does not certify wood burning fireplaces.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5254	901.2.1 Solid fuel-burning fireplaces, inserts, stoves, and heaters
Submitter:	Thomas Stroud, HPBA	
Requested Action:	Add new as follows	
Proposed Change:	"Factory-built wood-burning fireplaces are inaccordance with the certification requirements of UL 127 and are EPA certified orqualified." The modification adds "orqualified."	
Reason:	During the last revision of this code it was discussed that this language should be included. The difficulty was that this category had not been fully adopted by EPA. Now EPA has fully adopted this category and promotes it http://www.epa.gov/burnwise/fireplacelist.html. Fireplaces in the EPA's Qualified program are specifically designed to operate as fireplaces rather than wood stoves (as are the EPA Certified Appliances). The certified products make sense for some regions that are seeking to heat with the fireplace. The EPA has created the Qualified program for new homes in warmer climates and for homes seeking just the ambiance of the fireplace, yet want to have that product clean-burning. Given that EPA has chosen not to regulate fireplaces in the current NSPS this classification will reinforce the use of cleaner burning EPA Qualified Fireplaces.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5251	901.2.1 Solid fuel-burning fireplaces, inserts, stoves, and heaters
Submitter:	Kat Benner, TexEnergy	
Requested Action:	Delete without substitution	
Proposed Change:	(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 ~~and are EPA certified~~.	
Reason:	• Removal of Mandatory 901.2.1(2) “EPA certified” fireplace requirement BACKGROUND: The way currently written allows no large multifamily property to afford the option of decorative wood burning fireplaces, very common in the South. Standard assumes all fireplaces are as sole heat-source of unit vs. decorative/supplemental. Traditionally, a decoration wood-burning fireplace would have no added ‘Indoor Air Quality’ measures-fire box flue and damper, that’s it. A progressive step would be to mandate, outside combustion air and gasketed fireplace doors. (see cost comparison below). This would allow the fireplace to burn wood without using the conditioned indoor air for combustion and it would allow for the fireplace to no spill combustion byproducts into the conditioned space. EPA certification does not certify decoration wood burning fireplaces, It only certifies fireplaces that are to be used as a primary or sub-primary heat sources, for a home/dwelling; the certification is based on the ability of the fireplace to be loaded up with enough wood to burn efficiently for long hours (through the night). Moreover, the ideology for this certification is based less on ‘Indoor Air Quality’ as it is atmospheric or ‘Outdoor Air Quality’-the more efficiently the wood burns the less byproduct exhausting up the flue. This also, seems to be misaligned with the basic principals of a green building program to be, incrementally better than a base code, with a progressive ‘stair stepping’ of more efficient(greener) practices. Requiring EPA certification, is not a incremental step, the market does not exist for fireplaces of this type on a multifamily production scale. I would venture to say that the market will never exist due the nature of mechanical systems typically being oversized for smaller dwelling units. The need for a primary or sub-primary wood burning fireplace heat source, in an apartment unit, is just not necessary – the most practical solution is to have the EPA certification for Decoration Fireplace (currently being lobbied by many fireplace manufacturers), but until this exists the requirement of an EPA certified wood burning fireplace will only add a design restriction associated with NGBS – No wood burning fireplaces in apartments. Traditional wood burning fireplace - $150.00 per unit x 300 units = $45,000.00 per project (progressive step) Indoor Air Quality appropriate wood burning fireplace with gasketed doors and outside combustion air - $350.00-$450.00 per unit x 300 units = $105,000.00 - $135,000.00 per project (unachievable requirement) EPA certified - $750.00-$1,000 per unit x 300 units = $225,000.00 - $300,000.00 per project	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 714	901.3 Garages
Submitter:	Gladys Quinto Marrone, BIA Hawaii	
Requested Action:		
Proposed Change:	Better definition of what constitutes a ‘carport’ is needed. For example, the amount of enclosed space and amount of ventilation for garages with open block walls and windows.	
Reason:	Better definition of what constitutes a ‘carport’ is needed.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5144	901.4 Wood materials
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**901.4Wood materials.** ~~A minimum of 85 percent of material within a product group (i.e., wood structural panels, countertops, composite trim/doors, custom woodwork, and/or component closet shelving) is manufactured in accordance with the following:~~ (1) Structural plywood used for floor, wall, and/or roof sheathing is compliant with DOC PS 1 and/or DOC PS 2. OSB used for floor, wall, and/or roof sheathing is compliant with DOC PS 2. The panels are made with moisture-resistant adhesives. The trademark indicates these adhesives as follows: Exposure 1 or Exterior for plywood, and Exposure 1 for OSB.	
Reason:	Structural use panels are almost never used for countertops, woodwork, or shelving. Structural use panels are a different product type and should not be lumped together with the other types. All structural use panels should comply not just 85%. A new practice is needed to split the original one into two practices.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5145	901.4 Wood materials
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Add new as follows	
Proposed Change:	901.5 **Wood materials.** A minimum of 85 percent of material within a product group (i.e. countertops, composite trim/doors, custom woodwork, and/or component closet shelving) is manufactured in accordance with the following (1) Particleboard and MDF (medium density fiberboard) is manufactured and labeled in accordance with CPA A208.1 and CPAA208.2, respectively. **(Points awarded per product group.)** (2) Hardwood plywood in accordance with HPVAHP-1. **(Points awarded per product group.)** (3) Particleboard, MDF, or hardwood plywood is in accordance with CPA 4. **(Points awarded per product group.)** (4) Composite wood or agrifiber panel products contain no added urea-formaldehyde or are in accordance with the CARB *Composite Wood Air Toxic Contaminant Measure Standard*. **(Points awarded per product group.)** Non-emitting products. **(Points awarded per product group.)**	
Reason:	The original 901.4 practice lumped structural use panels in with countertop, trim, and shelving materials. These are two significantly different materials and uses. The practice should be split.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5146	901.6 Carpets
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**901.6 Carpets.** Carpets are in accordance with the following: (1) Wall-to-wall carpeting is not installed adjacent to water closets and bathing fixtures. ~~(2) A minimum of 10 percent of the conditioned floor space has carpet and at least 85 percent of installed carpet area and/or carpet cushion (padding) are in accordance with the emission levels of CDPH/EHLB Standard Method v1.1 except footnote b in Table 4.1 does not apply(i.e., allowable maximum formaldehyde concentration is 16.5 µg/m^3(13.5 ppb)). Product is tested by a laboratory with the CDPH/EHLB Standard Method v1.1 within the laboratory scope of accreditation to ISO/IEC 17025 and certified by a third-party program accredited to ISO Guide 65, such as, but not limited to, those in Appendix D.~~	
Reason:	Another proposed change has been submitted addressing flooring materials in total that will incorporate the deleted portion of this practice.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5147	901.7 Hard-surface flooring
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**901.7 ~~Hard-surface flooring~~.** Flooring Materials: The following types of finished flooring materials are used. The materials have emission levels in accordance with CDPH/EHLB Standard Method v1.1 except footnote b in Table 4.1does not apply (i.e., allowable maximum formaldehyde concentration is 16.5 µg/m^3(13.5 ppb)). Product is tested by a laboratory with the CDPH/EHLB Standard Method v1.1 within the laboratory scope of accreditation to ISO/IEC 17025 and certified by a third-party program accredited to ISO Guide 65, such as, but not limited to, those in Appendix D. (1) Hard surface flooring: ~~A minimum of 10 percent of the conditioned floor space has pre-finished hard-surface flooring installed and a minimum of 85 percent of all~~ prefinished installed hard-surface flooring is ~~in accordance with the emission concentration limits of CDPH/EHLB Standard Method v1.1 except footnote b in Table 4.1 does not apply (i.e., allowable maximum formaldehyde concentration is 16.5 µg/m^3 (13.5 ppb)). Emission levels are determined by a laboratory accredited to ISO/IEC 17025 and the CDPH/EHLB Standard Method v1.1 is in its scope of accreditation. The product is certified by a third-party program accredited to ISO Guide 65, such as, but not limited to, those found in Appendix D.~~ Prefinished installed hard-surface flooring is installed. Where post-manufacture coatings or surface applications have not been applied, the following hard surface flooring types are deemed to comply with the emission requirements of this practice:… (2) Carpet. (Points are awarded for every 10% of conditioned floor space using one of the above materials. When carpet cushion meeting the emission limits of the practice is also installed, the percentage of compliant carpet area is calculated at 1.33 times the actual installed area).	
Reason:	It seems more logical to treat all flooring materials in a similar and connected way and give more points for more compliant flooring that just the minimum of 10% of the conditioned floor space. More points should be awarded for a home with 100% of the floor space complying compared to one that only 10% complies. Suggested point level is 1 or 2 points per 10% of conditioned floor space.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5311	901.9 Interior architectural coatings
Submitter:	Lorraine Ross, L Ross Consulting Inc	
Requested Action:	Add new as follows	
Proposed Change:	Add this exception to Section 901.9: Exception: Interior architectural coatings that are formulated to remove formaldehyde and other aldehydes in indoor air and are tested and labeled in accordance with ISO 16000-23, “Indoor Air – Performance test for evaluating the reduction of formaldehyde concentrations by sorptive building materials”.	
Reason:	Reason: This proposal recognizes new technology for additives that have proven to abate, or remove, formaldehyde and other aldehydes when part of formulations for paints, coatings, acoustical ceilings and wall systems. The new proposed reference standard is the standard method used to assess the performance of these formulations.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5210	902.1.1 Spot Ventilation
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	(2) Clothes dryers (including condensing dryers) are vented to the outdoors.	
Reason:	We have had several requests to allow condensing dryers even though they are not vented to the outdoors. The argument is that the moisture is removed by the condensation process. But my concern is with possible out gassing from fabric softener sheets, detergents, etc. I don't know if this really is an IEQ issue or not but I wanted to raise the issue for consideration by others more knowledgeable than me. If it is not a concern please reject this proposed change.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5063	902.2.1 Whole building ventilation system
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	One of the following whole building ventilation systems is implemented and is in accordance with the specifications of Appendix B. and an explanation of the operation and importance of the ventilation system is included in either 1001.1 or 1003.2.	
Reason:	Proper ventilation is important especially in tight houses. 902.2.1(a)needs more explanation about operation and importance for the typical home owner.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5094	902.2.1 Whole building ventilation system
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Recommend the following additions be made: (3) Heat-recovery ventilator *(HRV)* (4) Energy- recovery ventilator *(ERV)* (5) *HRV or ERV is used as exhaust fan for one or more bathrooms or for a kitchen application*	
Reason:	This should be provided as a 9 or 10 point option because it saves up to 45% on the energy losses caused by simple negative air pressure exhaust only outside air /make up air designs.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5132	902.2.2 Whole building ventilation airflow is tested
Submitter:	Marie Nisson, TexEnergy/US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	902.2.2 Ventilation airflow is tested to achieve the design fan airflow ~~at point of exhaust~~ in accordance with Section 902.2.1	
Reason:	Exhaust ductwork is visually inspected during predrywall for NGBS and Code. Testing at point of exhaust is not safe nor practical for many multifamily and multiple story, single family homes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5248	902.2.3 MERV 8 filters
Submitter:	Jeremy Velasquez, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	Measure should be mandatory at MERV 6 and award additional points for MERV 8+: (a)MERV Filters 6 are installed..... Mandatory (b) MERV Filters 8 are installed .... 3 pts (c) MERN Filter 11 or greater .... 6 pts	
Reason:	To address IAQ concerns, MERV filtration should be required for GREEN BUILDINGS. Many design teams will not choose this measure for MF, as it is not required, and so the indoor air quality suffers for most NGBS projects.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5304	902.3 Radon control
Submitter:	aaron gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	Radon control measures are in accordance with ICC IRC Appendix F or (insert appropriate IBC reference)...	
Reason:	Multifamily buildings are not built to the ICC IRC, they follow the ICC IBC. NGBS protocol should reflect the appropriate code requirements.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5095	904.2 Kitchen exhaust
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	904.2 **Kitchen Exhaust.** A kitchen exhaust unit(s) that equals or exceeds 400cfm (189 l/s) is installed and makeup air is provided *(1) ERV or HRV is installed to temper the outside air being brought in.*	
Reason:	Recommend making the makeup air requirement mandatory and awarding the 2 points for making it economical	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5079	Other for Chapter 9 (include section number and title below)
Submitter:	Josh Jacobs, UL	
Requested Action:	Revise as follows	
Proposed Change:	For Sections 901.6, 901.7, 901.8, 901.9, 901.10, & 901.11 A minimum……in accordance with the emission levels of CDPH/EHLB Standard Method v1.1 ~~except footnote b in table 4.1 does not apply (i.e., allowable maximum formaldehyde concentration is 16.5 ug/m3 (13.5 ppb))~~……	
Reason:	Formaldehyde exposure in indoor environments is one of the most prevalent indoor environmental quality issues. The referenced standard, CDPH/EHLB Standard Method v1.1 set a new limit for formaldehyde on January 1, 2012. At the last revision of this standard the committee felt that it was not enough time to ask manufacturers to comply with the lowering of the levels. As of today, the marketplace has done a good job of adjusting their levels and many products show compliance to the lower required level.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5080	Other for Chapter 9 (include section number and title below)
Submitter:	Josh Jacobs, UL	
Requested Action:	Add new as follows	
Proposed Change:	**904.3 Total Volatile Organic Compound Emission Limit**. A minimum of 50% of all installed products that comply with Sections 901.6, 901.7, 901.8, 901.9.3, 901.10 (1), and 901.11 shall demonstrate a Total Volatile Organic Compounds (TVOC) emission limit of </= 500 ug/m3 per the CDPH/EHLB Standard Method v1.1. The emission levels are determined by a laboratory accredited to ISO/IEC 17025 and the CDPH/EHLB Standard Method v1.1 is in its cope of accreditation. Points 2	
Reason:	The existing product emission criteria in 901.6, 901.7, 901.8, 901.9, 901.10, & 901.11 only covers 35 individual chemicals. While this list covers some of our more well-known potentially harmful chemical, it does not cover the thousands of other chemicals that could be coming off products. With over 10,000 chemicals having been found to emit from man-made products there is a lot of uncovered area. This proposal helps us marry the coverage of the known concerns (the existing limits) with the coverage against the unknown.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5172	Other for Chapter 9 (include section number and title below)
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Add new as follows	
Proposed Change:	**902.7 Pest Barriers** 1) Minimize Pathways for Pest Entry NOTE: Completion of the ENERGY STAR checklists now satisfies the following Indoor airPLUS requirements: ·· Seal all penetrations and joints between the foundation and exterior wall assemblies (TES 5). ·· Air seal all sump covers (WMS 1.7). No additional Indoor airPLUS Requirements · Advisories: 1. When sealing larger gaps that provide potential points of entry for rodents, copper or stainless steel wool is recommended in addition to sealant. 2. Additional precautions should be taken in areas classified as “Moderate to Heavy” termite infestation probability (as identified by 2009 IRC Figure 301.2 [6]): ·· Foundation walls should be solid concrete or masonry with a top course of solid block, bond beam, or concrete-filled block. ·· Interior concrete slabs should be constructed with 6 x 6 in. welded wire fabric, or the equivalent, and concrete walls should be constructed with reinforcing rods to reduce cracking. ·· Sill plates should be made of metal or preservative-treated wood. 3. Additional precautions should be taken in areas classified as “Very Heavy” termite infestation probability (as identified by 2009 IRC Figure 301.2[6]) i.e., Alabama, Florida, Georgia, Louisiana, Mississippi, South Carolina and parts of California and Texas: ·· Foam plastic insulation should not be installed on the exterior face of below-grade foundation walls or under slabs. ·· Foam plastic insulation installed on the exterior of above-grade foundation walls should be kept a minimum of 6 in. above the final grade and any landscape bedding materials and should be covered with moisture-resistant, pest-proof material (e.g., fiber cement board or galvanized insect screen at the bottom-edge of openings). ·· Foam plastic insulation applied to the interior side of conditioned crawlspace walls should be kept a minimum of 3 in. below the sill plate. (2) Rodent/Bird Screens for Building Openings Indoor airPLUS Requirements: · Provide corrosion-proof rodent/bird screens (e.g., copperor stainless steel mesh) for all building openings that cannot be fully sealed and caulked (e.g., ventilation system intake/exhaust outlets and attic vent openings). · Exception: This requirement does not apply to clothes dryer vents.	
Reason:	Pest barriers are important to preventing animal-related pollutant loading of the indoor environment.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5229	Other for Chapter 9 (include section number and title below)
Submitter:	Eric DeVito, BBRS	
Requested Action:	Add new as follows	
Proposed Change:	**902.1 Spot ventilation** **902.1.5** Fenestration in dwelling areas is designed for cross-ventilation in accordance with all of the following: (1) Operable windows 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 and sliding glass doors. (3) A minimum of two windows or sliding glass doors are placed in adjacent or opposite walls.	**5**
Reason:	One often overlooked source of spot ventilation and potential energy efficiency is the proper installation of operable windows and sliding glass doors. Much of the debate over indoor environmental quality focuses on keeping outdoor air out, but a homeowner needs the flexibility to occasionally move a great deal of air through the home – whether to remove indoor air toxins or to simply take advantage of a favorable breeze in the spring or fall. The proposal above is designed to be a simple three-part design checklist that ultimately will enable homeowners to easily and quickly ventilate the main living areas of the home. While we could have designed a much more complicated set of criteria, this proposal catches the most essential elements. The three important elements are as follows: • Enough operable windows or doors to air out the primary living areas: We have selected 15% as a reasonable amount, recognizing that not every window or door needs to be operable in a typical residential building. • Screens for each window or sliding glass door: A homeowner is much more likely to take advantage of the benefits of spot ventilation if insect screens are in place. • Windows and doors must create conditions for cross-ventilation: It is not as effective to place all operable fenestration on one side of the home. To take advantage of a favorable breeze or to efficiently ventilate a living area, windows should be located on adjacent or opposite walls. We note that although there is some likelihood of energy savings associated with proper cross-ventilation, this will depend on the user knowing when to operate the windows and doors. At least one state – Florida – provides an energy efficiency performance credit for cross ventilation, although the requirements are much more complicated than what we have proposed here. Because the energy efficiency benefit cannot be guaranteed, this proposal is probably best listed among other spot ventilation measures, such as exhaust fans, that depend on the user to operate properly.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Appendix B: Ducted Garage Exhaust Fan Sizing Criteria

Proposal ID TBD	LogID 5113	B200 Whole-building ventilation
Submitter:	Donald Prather, ACCA	
Requested Action:	Delete and substitute as follows	
Proposed Change:	Update Information and Tables and equations to reflect 62.2 -2013 requirements	
Reason:	Tables and formulas have changed dramatically and there are different values in the table for Multifamily and single family residences.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5164	801.2 Water-conserving appliances
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(3) washing machine with a water factor of ~~6.0~~ 4.0 or less	
Reason:	The maximum water factor for an ENERGY STAR qualified washing machine is 6.0. (a lower value is more water efficient) It would seem that the highest number of points should go to more efficient washing machines. There are 494 labeled ENERGY STAR models of clothes washers and 360 have a water factor of 4.0 or less.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5165	801.3 Showerheads
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(2) All shower compartments in the dwelling unit(s) and common areas meet the requirements of 801.3(1) and all showerheads are in accordance with one of the following: (a) ~~2.0 to less than 2.5 gpm. 11 Additional~~ WaterSense labeled -- 11 points (b) ~~1.6 to less than 2.0 gpm~~ WaterSense labeled and flow rate of 1.7 gpm or less -- 14 points	
Reason:	All EPACT compliant showerheads that flowed at 2.5 or less would receive points under (1). They could simplify by recognizing high efficiency showerheads labeled by WaterSense which have a maximum flow of 2.0 gpm. This would ensure that performance criteria would be met – allowing the floor of 1.6 gpm could be eliminated. Provide additional points for WaterSense labeled showerheads that flow at 1.7 gpm or less.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5138	801.3 Showerheads
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	801.3 (1) The total maximum combined flow rate of all showerheads controlled by a single valve at any point in time in a shower compartment is 1.6 to less than 2.4~~5~~ gpm. Maximum of two valves are installed per shower compartment. The flow rate is tested at80 psi (552 kPa) in accordance with ASME A112.18.1. Showerheads are served by an automatic compensating valve that complies with ASSE 1016 or ASME A112.18.1 and specifically designed to provide thermal shock and scald protection at the flowrate of the showerhead.	
Reason:	The federal minimum rate is 2.5 gpm. With the practice worded at "… to less than 2.5 gpm" makes it too easy for someone to quickly read it and assume that a 2.5 gpm showerhead complies. The "less than" should be defined to be substantial enough to be rewarded with points. A showerhead at 2.49 gpm would get the points but is that really worth 4 points. The upper limit of 2.4 is merely a suggestion. The committee is encouraged to set a value that represents a practical reduction over the current federal minimum worthy of the points.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5139	801.4.1 Lavatory faucets
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**801.4.1** Water-efficient lavatory faucets with a maximum flow rate of 1.5 gpm (5.68 L/m), tested at 60 psi (414kPa) in accordance with ASME A112.18.1, are installed: (Points awarded for 801.4.1 or801.4.2, not both).	
Reason:	This change is to make it consistent with the treatment for all the toilets in the home meeting 801.5.2. Or a change could be made to 801.5 to be consistent with 801.4.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5166	801.4.1 Lavatory faucets
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	WaterSense labeled water-efficiency lavatory faucets…	
Reason:	We recommend referencing WaterSense labeled lavatory faucets which flow at 1.5 gpm or less.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5167	801.4.1 Lavatory faucets
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Revise: (2) all lavatory faucets in the dwelling unit(s) ~~and common areas~~ Replace "and common areas with" new text: 801.4.3 Water-efficient lavatory faucets with a maximum flow rate of 0.5 gpm (1.89 L/m), tested at 60 pst (414 kPa) in accordance with ASME A112.18.1, are installed in all common areas. – 3 points	
Reason:	In a public use or common area, they should not use private use lavatory faucets (which WaterSense labels at 1.5 gpm or less). The commonly accepted flow rate for public use lavatory faucets is 0.5 gpm, so giving points for a faucet that flows at 1.5 gpm is counter to the ”greening” intent of the standard.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5168	801.5 Water closets and urinals
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(2) A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less when tested in accordance with ASME A112.19.2/CSA B45.1 or ASME A112.18.14 as applicable, and is ~~in accordance with EPA~~ WaterSense labeled ~~Tank-Type Toilets~~.	
Reason:	Simplify language to ensure that products are certified as meeting the WaterSense specification of 1.28 gpf. As currently drafted, it could suggest that a product that met the specification but had not been certified as doing so could earn the points.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5169	801.5 Water closets and urinals
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	**(4)(b)** One or more WaterSense labeled urinals with a flush volume of 0.5 gallons (1.9L) or less when tested in accordance with ASME A112.19.2.	
Reason:	Simplify language to ensure that products are certified as meeting the WaterSense specification, which allows a maximum volume of 0.5 gpf. Although not a comment, there does not appear to be a maximum value for this subsection as there is for water closets.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5140	801.6.2 Drip irrigation is installed
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**801.6.2** Drip irrigation is installed. (1) Drip irrigation is installed for all landscape beds. (2) Subsurface drip is installed for all turf grass areas. (3) Drip irrigation zones specifications show plant type by name and water use/need for each emitter (Points awarded only if specifications are implemented.)	
Reason:	Some indication of how much drip irrigation is needed for the points should be included in the practice. 801.6.4 seems out of place when it should be connected to 801.6.2. If this change is done the “8 Max” needs to be deleted.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5141	801.6.3 Landscape plan and implementation
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**801.6.3**Landscapeplan and implementation are executed by a certified WaterSense Professional or equivalent as approved by Adopting Entity. 5 ~~Additional.~~	
Reason:	It is not clear what these points are in addition to. Are points required in 801.6.1 and/or 801.6.2 and if so how many are required.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5170	801.6.3 Landscape plan and implementation
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Landscape irrigation plan and implementation are executed by a ~~certified WaterSense Professional or~~ professional certified by a WaterSense labeled program or equivalent as approved by Adopting Entity.	
Reason:	WaterSense does not have a professional certification category for landscape planning – only for irrigation design, installation and audits. Language has been changed to reflect irrigation focus and also to reflect pending changes to the WaterSense program that will require changes in how we talk about certified professionals.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5142	801.6.4 Drip irrigation zones specifications show plant type
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Delete without substitution	
Proposed Change:	801.6.4delete without replacement	
Reason:	Another proposed change has been submitted to include this practice as part of 801.6.2.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5067	801.6.5 Irrigation system(s) smart controller or no irrigation is installed
Submitter:	Philip LaRocque, LaRocque Business Management Services, LLC	
Requested Action:	Revise as follows	
Proposed Change:	801.6.5 (2) No irrigation is installed~~ and a landscape plan is developed in accordance with Section503.5, as~~ applicable~~.~~	
Reason:	We need to return to the 2008 NGBS on this practice. A builder should be rewarded for simply not having an irrigation system with no requirement to have a landscape plan. We should be motivating the conservation of water thru no irrigation system installation without the builder adding the expense of a landscape plan with two practices.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5052	801.6.5 Irrigation system(s) smart controller or no irrigation is installed
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	(2) No irrigation is installed and a landscape plan is developed and implemented in accordance with Section 503.5~~, as applicable.~~(1)-(4) and achieving at minimum of X points from (1)-(4).	
Reason:	The 2012 NGBS is not clear if all or only some of the 503.5 practices must be met. Some of the 503.5 practices do not really impact water usage. The task group should recommend the appropriate number of points.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5171	801.6.5 Irrigation system(s) smart controller or no irrigation is installed
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(1) Evapotranspiration (ET) based irrigation controller with a rain sensor or soil moisture sensor based irrigation controller. --- 8 points (2) WaterSense labeled irrigation controller -- 10 points (3) ~~(2)~~ No irrigation is installed....	
Reason:	EPA WaterSense now has a specification to label weather-based irrigation controllers and is in the process of developing a similar specification for soil moisture based irrigation controllers. We suggest providing points for those controllers.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5153	Other for Chapter 8 (include section number and title below)
Submitter:	Stephen J Holzer, eM8s, LLC	
Requested Action:	Add new as follows	
Proposed Change:	**802.6 Building Information Modeling (BIM)** Project Teamuses BIM to develop a whole house model and applies that model to optimizewater efficiency requirements.	
Reason:	Building Information Modeling (BIM) is a computer generated model based process that simulates planning, design, construction and operations for buildings. It is a single repository for both three-dimensional, two-dimensional, and material properties information that allows data interoperability of all stakeholders to better inform design and construction decisions with the goal of producing the best product possible. This information technology will increase design and construction efficiencies and decrease costs for builders and end users. BIM may also facilitate better communication, collaboration and coordination among building industry professionals and trades working on the same project. Credit should be given to Builders utilizing the open industry standards as defined in the National Building Information Modeling Standard.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

<table>
<tr><th colspan="3">Proposal ID TBD LogID 5219 701.1 Mandatory requirements (Energy Efficiency)</th></tr>
<tr><td>Submitter:</td><td colspan="2">Eric Lacey, RECA</td></tr>
<tr><td>Requested Action:</td><td colspan="2">Add new as follows</td></tr>
<tr><td>Proposed Change:</td><td><u>701.4.3.5 Fenestration</u> <u>NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights and tubular daylighting devices (TDDs) on an area-weighted average basis do not exceed the values in Table 701.4.3.5. Area weighted averages are calculated separately for the categories of 1) windows and exterior doors and 2) skylights and tubular daylighting devices (TDDs). Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.</u>
<u>Table 701.4.3.5</u>
<u>Fenestration Specifications</u>
<table>
<tr><th><u>Climate Zone</u></th><th><u>Window/Ext. Door U-Factor</u></th><th><u>Window/Ext. Door SHGC</u></th><th><u>Skylight and TDD U-Factor</u></th><th><u>Skylight and TDD SHGC</u></th></tr>
<tr><td><u>1</u></td><td><u>0.50</u></td><td><u>0.25</u></td><td><u>0.75</u></td><td><u>0.30</u></td></tr>
<tr><td><u>2</u></td><td><u>0.40</u></td><td><u>0.25</u></td><td><u>0.65</u></td><td><u>0.30</u></td></tr>
<tr><td><u>3</u></td><td><u>0.35</u></td><td><u>0.25</u></td><td><u>0.55</u></td><td><u>0.30</u></td></tr>
<tr><td><u>4</u></td><td><u>0.35</u></td><td><u>0.40</u></td><td><u>0.55</u></td><td><u>0.40</u></td></tr>
<tr><td><u>5-8</u></td><td><u>0.32</u></td><td><u>Any</u></td><td><u>0.55</u></td><td><u>Any</u></td></tr>
</table></td><td><u>Mandatory</u></td></tr>
<tr><td>Reason:</td><td colspan="2">This proposal improves ICC-700 in two important ways: First, it updates the fenestration requirements of the 2015 ICC-700 to match those of the 2015 IECC. Because prescriptive residential fenestration requirements in the 2012 and 2015 IECC are identical, the table will mesh well with jurisdictions that adopt either version of the IECC. Second, it applies the baseline not only to the prescriptive compliance path, but also to the performance path. The 2008 NGBS applied a mandatory set of baseline fenestration requirements to both the performance path and the prescriptive path. As the baseline was improved in the 2012 version of the NGBS, the mandatory baseline was moved to Section 703.1.6, which applies only to the prescriptive compliance option. Code-compliant fenestration is crucial to energy efficiency, regardless of the other measures implemented in Chapter 7. The NGBS currently permits considerable flexibility in the use of fenestration, allowing design professionals to use fenestration to reduce lighting loads, improve the indoor environment, and to provide a better connection between occupants and the outdoors. Regardless of the amount of glazing, however, there must be some minimal requirements for efficiency. Even the most efficient windows currently available do not achieve the same thermal resistance as a wall with very minimal insulation. Without restricting design freedom, this proposal restores the fenestration requirements to Section 701 to ensure that the requirements specified in the base code (in this case, the 2015 IECC) will apply to both the prescriptive and performance alternatives, maintaining at least a minimum level of fenestration efficiency.</td></tr>
<tr><td>TG Recommendation (AS or AM or D):</td><td colspan="2"></td></tr>
<tr><td>Modification of Proposed Change:</td><td colspan="2"></td></tr>
<tr><td>TG Reason:</td><td colspan="2"></td></tr>
<tr><td>TG Vote:</td><td colspan="2"></td></tr>
</table>

Proposal ID TBD	LogID 5213	701.1 Mandatory requirements (Energy Efficiency)
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	
Proposed Change:	**701.1 Mandatory requirements.** The building shall comply with the IECC and with either Section 702 (Performance Path) or Section 703 (Prescriptive Path). Items listed as "mandatory" in Section 701.4 apply to both the Performance and Prescriptive Paths.	
Reason:	This proposal helps ensure that buildings certified as "green" meet, at a minimum, the national model energy code for residential construction, the IECC. It is likely that many homes built to ICC-700 will exceed the requirements of the ICC, and for these homes, this requirement will not require any additional effort. However, this proposal would help prevent a scenario in which a home is certified as "green," yet fails a reasonable minimum energy code. States are required, under federal law, to review the provisions of each new edition of the IECC found by DOE to be more efficient than the previous edition. As a result, the vast majority of states, counties, and cities, have adopted the IECC as the residential energy code. ICC-700 should be positioned as a natural outgrowth of the existing residential energy code, not a stand-alone standard with potentially conflicting requirements. This proposal will also make ICC-700 more adoptable and will enhance the Standard's credibility at the state and local level. We believe that including an IECC backstop in all compliance paths will make it much easier for jurisdictions to allow ICC-700 certification as an acceptable compliance option to the IECC by removing some of the guesswork and subjectivity involved with IECC Section R102.1.1 Above Code Programs. If the home has already been certified as IECC-compliant as part of the ICC-700 certification process, this will significantly reduce the burden on the local code official to evaluate the energy efficiency qualities of the home.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5299	701.1.1 Minimum Performance Path requirements
Submitter:	aaron gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	...exceed baseline performance of ICC 2012 IECC by 5%... Note: Prescriptive Path would need to be updated to align with 2012 IECC + 5% accordingly so that both paths have equal balance.	
Reason:	As 2012 IECC adoption continues across the country updating to 2012 IECC becomes important so NGBS 2015 remains an "above code" program. 2012 IECC does present challenges though for many constituents. The incremental cost of improvement above each successive code (2006 to 2009 to 2012) increase substantially also because of the diminishing return of upgrades as the baseline increases. Moving to 5% in lieu of 15% responds to this reality such that 2015 NGBS remains a viable option.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5215	701.1.1 Minimum Performance Path requirements

Submitter:	Eric Lacey, RECA
Requested Action:	Revise as follows
Proposed Change:	**701.1.1 Minimum Performance Path requirements.** A building complying with Section 702 shall exceed the baseline minimum performance required by the ~~ICC~~ 2015 IECC by ~~15~~ 10 percent and shall include a minimum of two practices from Section 704.

702.2.2 Energy cost performance analysis. Energy cost savings levels above the ~~ICC~~ 2015 IECC are determined through an analysis consistent with Section R405 of the IECC~~that includes improvements in building envelope, air infiltration, heating system efficiencies, cooling system efficiencies, duct sealing, water heating system efficiencies, lighting, and appliances~~.	POINTS
(1) ~~15~~ 10 percent	30
(2) ~~30~~ 20 percent	60
(3) ~~40~~ 30 percent	80
(4) ~~50~~ 40 percent	100

Reason:	This proposal updates the reference to the IECC in the performance path with the latest edition of the IECC and revises the percentage improvement required for various point levels. It also standardizes the method used for modeling energy cost by referencing the IECC performance path methodology (Section R405). This will simplify compliance verification by only requiring a single calculation for energy cost savings for the IECC and the NGBS. It will also apply a consistent baseline to both codes to ensure that the NGBS maintains pace with the IECC. The NGBS should not lag behind the national model energy code in its energy conservation requirements. While it is important to allow considerable flexibility in a voluntary, "above-code" program, great care must be taken to ensure that it remains above-code. This proposal does that by making the 2015 IECC performance path the new baseline. By updating the current reference to the 2009 IECC to the 2015 IECC, the NGBS will capture the second half of a roughly 30% improvement in the IECC since 2006, and will make the 2015 NGBS consistent by referencing the 2015 edition of the IECC. Although we would not oppose leaving the percentage improvements beyond code as they are in Section 702.2.2, we are proposing that the first level be reduced to a 10% improvement over the base code. This is generally consistent with the approach used in Section 605.1.1 of the 2012 IGCC, which requires the building thermal envelope to exceed the requirements of the IECC by 10%.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 5116	701.1.1 Minimum Performance Path requirements
Submitter:	Jawanda Jackson, Michigan State University	
Requested Action:	Add new as follows	
Proposed Change:	There are very few green building rating systems that require a monitoring process before certification is awarded. Monitoring tools are often expensive and require specific skill sets to analyze. I think that a credit that awarded a additional points and more importantly, a special seal of recognition in addition to certification could address the need for monitoring and reporting actual performance for energy and water usage. This option could be especially attractive to local governments as a condition for incentives or the maximum amount where varied levels are awarded. This would allow owners to monitor their energy and water usages as well.	
Reason:	There is a need to ensure that green buildings are performing at the energy and water reduction levels that they have been designed or model.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 754	701.1.2 Minimum Prescriptive Path Requirements
Submitter:	Matthew Dobson, Vinyl Siding Institute	
Requested Action:		
Proposed Change:	703.1.2.2 (3) Exterior rigid insulat~~ion~~ed sheathing or siding ...	
Reason:	Change for further clarity.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5216	701.1.3 Alternative bronze level compliance
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	
Proposed Change:	**701.1.3 Alternative bronze level compliance.** As an alternative, any building that qualifies as an ENERGY STAR Version 3.0 Qualified Home or that meets all mandatory practices of Chapter 7 and demonstrates a 10% improvement over either~~compliance with~~ the 2015 ~~2012~~ IECC or Chapter 11 of the ~~2012~~ 2015 IRC ~~is deemed to meet all mandatory practices of Chapter 7 and~~ achieves the bronze level for Chapter 7. The buildings achieving compliance under Section 701.1.3 are not eligible for achieving a rating level above bronze.	
Reason:	This proposal acknowledges that if the new baseline for ICC-700 is the 2015 IECC or IRC Chapter 11, the Alternative Bronze Level Compliance option must be updated to reflect a meaningful improvement over the base code. Because the 2012 and 2015 IECC are already more energy efficient than the 2009 IECC, we believe that a 10% improvement over the code would put ICC-700 on the "leading edge" of energy conservation, while still allowing considerable flexibility to code users. The proposal also applies the mandatory requirements of Chapter 7 to the alternative bronze compliance option to ensure that key requirements of ICC-700 still apply. The mandatory requirements were selected because they are fundamental measures and practices for all modern, efficient homes. Every home certified to ICC-700 should meet these basic requirements.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5118	701.4 Mandatory practices
Submitter:	Marie Nisson, TexEnergy/US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	701.4.1.3 **HVAC System set up.** Performance ofthe heating and/or cooling system is verified by the HVAC contractor in accordancewith manufacturer's instructions including all of the following: (1) Start up procedure is performed in accordance withthe manufacturer's instructions (2) Refrigerant charge is verified by the super heatand/or sub cooling method (3) Burner is set to fire at input level listed onnameplate (4) Air handler setting/fan speed is set in accordancewith manufacturer's instructions	
Reason:	Recommend moving the following from 704.4.2 to mandatory practice	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5119	701.4 Mandatory practices
Submitter:	Marie Nisson, TexEnergy/US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	701.4.1.4 **HVAC Controls.** Use controls thatcan start and stop the system under at least two different time schedules perweek.	
Reason:	A programmable thermostat promotes more efficient use of heating and cooling equipment. It is a mandatory requirement in ASHRAE 90.1 and 2012 Residential Energy code for forced air systems	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5084	701.4 Mandatory practices
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	701.4.1.X **HVAC systems installation, and documentation.** Space heating and cooling systems are to be installed documented in accordance with ACCA QI 5-2010	
Reason:	Other places in the document the same requirements are either awarded points or are mandatory.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5300	701.4 Mandatory practices
Submitter:	aaron gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	Add 701.4.2.4. Duct Leakage Entire HVAC duct system...is tested by a third party...and maximum leakage is equal to or less than 6% of design flow.	
Reason:	Many multifamily projects that follow NGBS certification are not currently required to do duct testing, if the are 4 stories or taller. Duct testing is not required by Commercial IECC (which these projects will follow) nor is it an input for ASHRAE 90.1 modeling (which is how Commercial projects should be modeled per the IECC). By having duct testing called out only in the Prescriptive Path only and not as a mandatory for all projects divergent certification requirements now become the rule within the protocol.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5085	701.4.1.2 Radiant and hydronic space heating
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Add wording: 701.4.1.2 **Radiant and hydronic space heating.** Where installed as a primary heat source in the building, radiant or hydronic space heating system is designed*, installed, and documented,* using industry-approved guidelines and standards (e.g.., ACCA Manual j, AHRI I=B=R, ACCA 5 QI-2010, or an accredited design professional's and manufacturer's recommendation.	
Reason:	Other places in the document the same requirements are either awarded points or are mandatory. Recommend awarding points based on verification since the QI 5 represents the HVAC industry's recognized minimum requirements.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5086	701.4.2.2 Supply ducts
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	701.4.2.2 **Supply *and Return* Ducts.** Building cavities are not to be used as supply *and Return* Ducts.	
Reason:	This change is the only way that the return air path can be designed properly and the only way to meet duct insulation requirements for points in the duct insulation sections (it appears to be required in table 703.3.3 on page 58). Using pan joists and building cavities for return ducting is not a recommended practice where airflow control is desired for balancing an HVAC system. Additionally, Duct leakage can be measured and repaired but cavity space leakage has no remedy.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5302	701.4.3.2 Air sealing and insulation
Submitter:	aaron gary, US-EcoLogic	
Requested Action:	Delete and substitute as follows	
Proposed Change:	Revise (1) Testing Option to align with IECC 2012 requirements with different targets for Residential (ACH)and Commercial, i.e. 4+ story multifamily, (CFM per square foot on enclosure). Delete (2) Visual Inspection Option.	
Reason:	(2) Visual Inspection is not allowed under IECC 2012 for Residential buildings but is allowed for Commercial. Requiring testing for both levels the playing field. IECC does have different targets for Residential and Commercial spaces however. Reflecting this makes sense.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5312	701.4.3.2 Air sealing and insulation
Submitter:	Craig Conner, Building Quality	
Requested Action:	Revise as follows	
Proposed Change:	701.4.3.2 Air sealing and insulation. Grade 2 and 3 insulation is not permitted. 703.1.2.1 Grade 1 ~~and Grade 2~~ insulation installation~~s~~ is required in accordance with the following: ...[no changes to items 1 to 4] ~~703.1.2.2 Grade 1 installation is in accordance with the following:~~...[no changes to items 1 to 6 except renumbering] (7) Where properly installed ICFs, SIPs, spray foam and other wall systems that provide integral integral insulation are deemed in compliance with Grade 1 installation installation requirements. ~~(8)Grade 1 insulation meets or exceeds all requirements for Grade 2 insulation.~~ Delete without substation: ~~703.1.2.3~~	
Reason:	As a basic requirement, the NGBS should require insulation to be installed correctly. To my knowledge there are no insulation manufacturers that direct their insulation to be install as poorly as Grade 2 insulation. Therefore the NGBS should not allow it. As homes get progressively more energy efficient, the major flaws allowed by Grade 2 insulation significantly undercut the energy savings.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5325	701.4.3.2 Air sealing and insulation.
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	(1) Testing option. Building envelope tightness and insulation installation is considered acceptable when air leakage is less than seven air changes per hour (ACH) when tested with a blower door at a pressure of ~~33.5~~ 1.04 psf (50 Pa). Testing is conducted after rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation, and combustion appliances. Testing is conducted under the following conditions:	
Reason:	The value of 33.5 psf does not equate to50 PA. If psf is to be used the value should be 1.04 psf for equivalence to 50 PA.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5120	701.4.4 High-efficacy lighting
Submitter:	Marie Nisson, TexEnergy/US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	701.4.4 **High-efficacy lighting.** Achieve minimum lighting efficiencies through one of the following: (1) A minimum of 50 percent of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent (2) In-unit lighting power density, measured inwatts/square foot, is 1.1 or less	
Reason:	Provide a lighting power density alternative for mid-rise, multifamily construction	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5272	702.1 Point allocation (Performance Path)
Submitter:	Neil Leslie, Gas Technology Institute	
Requested Action:	Add new as follows	
Proposed Change:	**702.3 Annual direct and indirect CO_2e emissions.** CO_2e emissions calculations shall be performed in accordance with Sections 702.3.1 and 702.3.2. The CO_2e emissions associated with the proposed design shall be less than or equal to the CO_2e emissions associated with the standard reference design. **702.3.1 Electricity.** Emissions associated with use of electricity shall be calculated by converting the electricity used by the building at the electric utility meter or measured point of delivery to MWHs and multiplying by the CO_2e conversion factor in Table 702.3.1 based on the EPA eGRID Sub-region in which the building is located. **702.3.2 Other Fuels.** Emissions associated with the use of fuels other than electricity shall be calculated by the converting the fuel energy used by the building and its site at the utility meter or point of delivery to the site to MWh and multiplying by the emission factors in Table 702.3.2.	

TABLE 702.3.1 ELECTRICITY EMISSION RATE BY EPA eGRID SUB-REGION

eGRID 2012 SUB-REGION ACRONYM	eGRID 2012 SUB-REGION NAME	NON-BASELOAD CO_2e RATE (lbs/MWh)
AKGD	ASCC Alaska Grid	1647
AKMS	ASCC Miscellaneous	1826
ERCT	ERCOT All	1449
FRCC	FRCC All	1579
HIMS	HICC Miscellaneous	2046
HIOA	HICC Oahu	2046
MORE	MRO East	2135
MROW	MRO West	2432
NYLI	NPCC Long Island	1678
NEWE	NPCC New England	1402
NYCW	NPCC NYC/Westchester	1408
NYUP	NPCC Upstate NY	1584
RFCE	RFC East	1874
RFCM	RFC Michigan	2084
RFCW	RFC West	2243
SRMW	SERC Midwest	2463
SRMV	SERC Mississippi Valley	1504

SRSO	SERC South	1864
SRTV	SERC Tennessee Valley	2160
SRVC	SERC Virginia/Carolina	1923
SPNO	SPP North	2451
SPSO	SPP South	1818
CAMX	WECC California	1294
NWPP	WECC Northwest	1698
RMPA	WECC Rockies	2088
AZNM	WECC Southwest	1473
None	Not Included	1826

TABLE 702.3.2 OTHER FUELS EMISSION RATE

Fuel	CO2e lb/MWh
Propane	600
Fuel Oil (residual)	751
Fuel Oil (distillate)	706
Coal	836
Gasoline	689
Natural Gas	483
Wood and Wood Waste	64
Agricultural Biomass	64
District Chilled Water	332
District Steam	812
District Hot Water	767
Other fuels not specified in this table	1826

Reason: This proposal aligns with the IgCC CO2e compliance requirement. In the 2012 edition of the IgCC primary energy and CO2 equivalents were the metrics chosen to measure building compliance in the performance pathway to ensure that design choices do not inadvertently increase the building's impact on greenhouse gas emissions. CO2e emissions can be based on regional values (here EPA's eGrid for electricity) or national averages for the conversion of all fuel types to a common measurement unit. While there are advantages and disadvantages to each method, the regional method for electricity is more appropriate for this code because it better represents the actual CO2e emissions associated with electricity consumption of the building being constructed in the place where it is constructed. CO2e emissions can be represented based on the average regional generation profile or a non-baseload profile. The non-baseload conversion factors used here better reflect the actual generation impacts avoided by site energy savings proposed in the performance compliance option. ASHRAE Standard 105-2014 uses the regional non-baseload model for electricity because the non-baseload factors reflect the actual displaced generation fuel mix and associated emissions. The baseload and peak (non-baseload) generation fuel profiles will be different for most regions –more natural gas during peak, for example – and the impacts of a reduction in the building energy use will affect that non-baseload generation. For other fuels, Standard 105-2014 uses a national average value that fairly represents the emissions associated with consumption of those fuels in the building. Values for proposed Table 703.1 are from the following peer-reviewed ASHRAE paper published in January 2014: Leslie, N. and Marek Czachorski. 2014. Options for Determining Marginal Primary Energy and Greenhouse Gas Emission Factors (NY-14-C057). ASHRAE Transactions, Vol. 120, pt. 1. Atlanta: American Society of Heating, Refrigerating and Air-conditioning Engineers, Inc. Values for Table 7.3.2 are derived from ASHRAE Standard 189.1-2011 addendum an, with wood and biomass values from the wood industry assuming wood and biomass are considered renewable energy forms. The value for other fuels is the same as the "not included in eGRID" electricity factor in Table 702.3.1 to align with this proposal non-baseload methodology as well as the Standard 189.1 methodology.

TG Recommendation (AS or AM or D):

Modification of Proposed Change:

TG Reason:

TG Vote:

Proposal ID TBD	LogID 5271	702.2.1 ICC IECC analysis

Submitter: Neil Leslie, Gas Technology Institute

Requested Action: Revise as follows

Proposed Change:

702.2 Energy ~~cost~~ performance levels

702.2.1 ICC IECC analysis. Energy efficiency features are implemented to achieve energy cost or source energy performance that meets the ICC IECC. A documented analysis using software in accordance with ICC IECC~~,~~ Section R405, ~~or ICC IECC Section 506.2 through 506.5,~~ applied as defined in the ICC IECC, is required. For heating systems, the standard reference design shall be an air source heat pump. For service water heating, the standard reference design shall be and electric resistance storage water heater. For cooling systems, the standard reference design shall be an air cooled split system air conditioner. Source energy conversion factors for electricity shall be in accordance with Table 7.2.1. Source energy conversion factors for other fuels shall be in accordance with Table 7.2.2.

702.2.2 Energy ~~cost~~ performance analysis. Energy ~~cost~~ 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.

7.2.1 ELECTRICITY GENERATION ENERGY CONVERSION FACTORS BY EPA eGRID SUB-REGION

eGRID 2012 SUB-REGION ACRONYM	eGRID 2012 SUB-REGION NAME	NON-BASELOAD ENERGY CONVERSION FACTOR
AKGD	ASCC Alaska Grid	3.41
AKMS	ASCC Miscellaneous	3.27
ERCT	ERCOT All	2.89
FRCC	FRCC All	2.99
HIMS	HICC Miscellaneous	3.61
HIOA	HICC Oahu	3.53
MORE	MRO East	3.21
MROW	MRO West	3.63
NYLI	NPCC Long Island	3.57
NEWE	NPCC New England	2.80
NYCW	NPCC NYC/Westchester	3.10
NYUP	NPCC Upstate NY	2.82
RFCE	RFC East	3.11
RFCM	RFC Michigan	3.18
RFCW	RFC West	3.26
SRMW	SERC Midwest	3.46
SRMV	SERC Mississippi Valley	3.15
SRSO	SERC South	3.05
SRTV	SERC Tennessee Valley	3.23
SRVC	SERC Virginia/Carolina	3.14
SPNO	SPP North	3.69
SPSO	SPP South	3.31
CAMX	WECC California	2.99
NWPP	WECC Northwest	3.05
RMPA	WECC Rockies	3.41
AZNM	WECC Southwest	2.89
None	Not Included	3.15

	TABLE 7.2.2 OTHER FUEL ENERGY CONVERSION FACTORS **FUEL TYPE** / **ENERGY CONVERSION FACTOR** Natural Gas — 1.09 Fuel Oil — 1.19 LPG — 1.15 Purchased Hot Water — 1.35 Purchased Steam — 1.45 Other — 1.1
Reason:	Aligns with performance path provisions of IgCC and IECC. Includes fuel-agnostic single mechanical system baselines for maximum consumer choice and equitable societal benefits. Source energy can be based on regional values (here EPA's eGrid) or national averages for the conversion of all fuel types to a common measurement unit. While there are advantages and disadvantages to each method as noted in ASHRAE Standard 105-2014 "Standard Methods of Determining, Expressing and Comparing Building Energy Performance and Greenhouse Gas Emissions", the regional method is more appropriate for this code because it better represents the actual primary energy use of the building being constructed in the place where it is constructed. Similarly, primary energy savings can be represented based on the average regional generation profile or a non-baseload profile. The non-baseload conversion factors used here better reflect the actual generation impacts avoided by site energy savings in the performance compliance option. ASHRAE Standard 105-2014 is using the regional non-baseload model because the non-baseload factors reflect the actual displaced generation fuel mix. The baseload and peak generation fuel profiles will be different for most regions –more natural gas during peak, for example – and the impacts of a reduction in the building energy use will affect that non-baseload generation. Values for Table 7.2.1 are from the following peer-reviewed ASHRAE paper published in January 2014. Leslie, N. and Marek Czachorski. 2014. Options for Determining Marginal Primary Energy and Greenhouse Gas Emission Factors (NY-14-C057). ASHRAE Transactions, Vol. 120, pt. 1. Atlanta: American Society of Heating, Refrigerating and Air-conditioning Engineers, Inc.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	**LogID 5247**	**702.2.1 ICC IECC analysis**
Submitter:	Jeremy Velasquez, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	Provide explicit clarification for approved modeling softwares and methods for energy modeling (to address different building types and scenarios) 1. 3 stories and below is REM RATE. 2. 4 Story+ is ASHRAE 90.1 - 2007 (CARRIER HAP) Are there situations other than alternative bronze that we can use REM RATE for 4 or 5 story buildings?	
Reason:	Right now the protocol references code for modeling, but this leads to confusion and may not lead to correct and appropriate energy modeling. 1. For example - We understand that REM RATE models are appropriate for LOW-RISE, but sometimes we have 4-5 story projects that would typically require an ASHRAE 90.1-2007 model - based on our interpretation of commercial code, but RESNET, ENERGYSTAR and other entities allow REM RATE modeling for up to 5 stories.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5301	702.2.2 Energy cost performance analysis
Submitter:	aaron gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	Add clarification through protocol or VRG that reflects modeling requirements of Commercial IECC.	
Reason:	Though modeling per IECC 506 is mentioned all Comments and Notes currently are written to reflect 405 modeling requirements. 4+ stories multifamily projects should be modeled using ASHRAE 90.1 per IECC 506 and include all building spaces, not residential space only. NGBS 2015 protocol should reflect this such that multifamily projects can flow more easily through certification.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5276	703.1.2 Insulation installation
Submitter:	Shelly Leonard, Green Space Consultants LLC	
Requested Action:	Revise as follows	
Proposed Change:	Grade Points 1 ~~7~~ 10 2 ~~4~~ 5	
Reason:	Current points seem underweighted in relation to impact on this section.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5058	703.1.2.1 Grade 1 and Grade 2 installations
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Delete without substitution	
Proposed Change:	delete the practice	
Reason:	Since 703.1.1 requires grade 1 and it contains a table for points by climate zone and % improvement in UA, it seems illogical that a home could get more points in 703.1.2.1 than for a 20% improvement in climate zone 1 or 10% improvement in climate zone 6-8. Perhaps the approach should be re-do table 703.1.1(b) to cover grade 1 when no US improvement has been demonstrated.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5048	703.1.5 Building envelope leakage
Submitter:	Carl Seville, Seville Consulting	
Requested Action:	Revise as follows	
Proposed Change:	Expand table 703.1.5 to include points for Envelope Leakage Ratio at 50 Pa (ELR50) as an alternate to ACH50. An example of comparable points for climate zone 3 is shown below as an example:	

Max. ACH50	ELR50	Point CZ3
5	0.33	3
4	0.28	5
3	0.23	6
2	0.18	8
1	0.13	8

Reason:	ACH50 is a less accurate measurement than ELR and benefits larger buildings over smaller ones. Units below 1200 SF frequently have much higher ACH50 measurements than less well sealed larger buildings. An excel file showing equivalent leakage at both measurements will be sent via email. **[SEE ATTACHMENTS TO PUBLIC COMMENTS FOR ADDITIONAL INFORMATION]**
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 5220	703.1.6.1 Fenestration Specifications
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	

Proposed Change:

703.1.6 Fenestration	
703.1.6.1 NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights and tubular daylighting devices (TDDs) on an area-weighted average basis do not exceed the values in~~are in accordance with~~ Table 703.1.6.1. Area weighted averages are calculated separately for the categories of 1) windows and exterior doors and 2) skylights and tubular daylighting devices (TDDs). Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.	**Mandatory**

Table 703.1.6.1

Fenestration Specifications

Climate Zones	U-Factor	SHGC
	Windows and Exterior Doors (maximum certified ratings)	
1	~~0.65~~ 0.50	~~0.30~~ 0.25
2	~~0.65~~ 0.40	~~0.30~~ 0.25
3	~~0.40~~ 0.35	~~0.30~~ 0.25
4 ~~to 8~~	0.35	~~Any~~ 0.40
5 to 8	0.32	Any

	Skylights and TDDs (maximum certified ratings)		
~~1 and 2~~	0.75	0.30	
~~2~~ 3	0.65	0.30	
~~3 4 to 8~~	~~0.60~~ 0.55	~~Any~~ 0.30	
4	0.55	0.40	
5 to 8	0.55	Any	

Reason:	This proposal updates the minimum fenestration requirements for the prescriptive path from the 2009 IECC to the 2015 IECC values. The 2015 IECC residential fenestration requirements, which are identical to the 2012 IECC requirements, represent a moderate improvement over the 2009 IECC in efficiency for all climate zones. We note also that the 2012 and 2015 IECC provide an exception that allows skylight SHGC to meet a slightly higher SHGC (0.30) than vertical fenestration (0.25) in climate zones 1-3. We have made that exception part of the base requirement. The U.S. Department of Energy determined that the 2012 IECC, including the upgraded fenestration requirements, represents an energy efficiency improvement as compared to the 2009 IECC. See 77 Fed. Reg. 29322 (May 17, 2012). DOE also found the 2012 IECC residential requirements to be a cost-effective upgrade in every state it studied, and in the vast majority of cases, the cost savings were substantial. See http://www.energycodes.gov/development/residential/iecc_analysis/. Efficient fenestration, in particular, is highly cost-effective because it often requires simply selecting a climate-appropriate frame or piece of glass, and the net cost increase, if any, is generally very small. The NGBS should at least keep pace with the IECC requirements, and should go beyond the requirements wherever practicable. This simple upgrade to the fenestration table will bring consistency between the 2015 NGBS and the 2015 IECC and will yield improved comfort and substantial energy and cost savings to homeowners over the useful lifetime of the green home.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	**LogID 5297**	**703.1.6.1 Fenestration Specifications**
Submitter:	Jeff Inks, Window & Door Manufacturers Assn.	
Requested Action:	Revise as follows	
Proposed Change:	Revise the minimum fenestration specifications for the 2015 NGBS to the 2012 IECC specifications consistent with the 2012 NGBS based on the 2009 IECC.	
Reason:	This is to update the mandatory minimum fenestration requirements of the 2015 NGBS in accordance with the basis for the 2012 minimum requirements based on the 2009 IECC	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5295	703.1.6.1 Fenestration Specifications

Submitter: Jeff Inks, Window & Door Manufacturers Assn.

Requested Action: Revise as follows

Proposed Change:

Table 703.1.6.2(a)
Enhanced Fenestration Specifications

Climate Zones	U-Factor Windows & Exterior Doors	SHGC Windows & Exterior Doors	U-Factor Skylights & TDD's	SHGC Skylights & TDD's	POINTS
1	~~0.60~~0.40	~~0.27~~0.25	~~0.70~~0.60	~~0.30~~0.28	~~10~~ TBD
2	~~0.60~~0.40	~~0.27~~0.25	~~0.70~~0.60	~~0.30~~0.28	~~5~~ TBD
3	0.3~~5~~0	0.~~30~~25	0.5~~7~~3	~~0.30~~0.28	~~6~~ TBD
4	0.3~~2~~0	0.40	0.5~~5~~3	0.4~~0~~35	~~2~~ TBD
5	~~0.30~~ 0.27[a,b]	Any	~~0.55~~0.50	Any	~~5~~ TBD
6	~~0.30~~0.27[a,b]	Any	~~0.55~~0.50	Any	~~5~~ TBD
7	~~0.30~~0.27[a,b]	Any	~~0.55~~0.50	Any	~~5~~ TBD
8	~~0.30~~0.27[a,b]	Any	~~0.55~~0.50	Any	~~5~~ TBD

a.) For Climate Zones 5-8 an equivalent energy performance is permitted based on ~~either (1) windows with a U-factor = 0.31 and an SHGC = 0.35, or, a U-factor = 0.32 and an SHGC = 0.40 or (2)~~ fenestration meeting the ENERGY STAR Equivalent Energy Performance in Eligibility Criteria Version 6.0.

Effective January 1, 2016 in accorda

Reason: In accordance with convention set for the 2012 NGBS, this first level of enhnanced fenestraion is based on ENERGY STAR Version 6.0, effective 2015 & 2016 respectively.

TG Recommendation (AS or AM or D):

Modification of Proposed Change:

TG Reason:

TG Vote:

Proposal ID TBD	LogID 5292	703.1.6.1 Fenestration Specifications
Submitter:	Thomas Culp, Birch Point Consulting LLC	
Requested Action:	Add new as follows	
Proposed Change:	*Dynamicglazing* shallbe permitted to satisfy the SHGC requirements of Table 703.1.6.1 provided the ratioof the higher to lower labeled SHGC is greater than or equal to 2.4, and the *dynamicglazing* is automatically controlled to modulate the amount of solar gaininto the space in multiple steps. *Dynamic glazing* shall be consideredseparately from other fenestration, and area-weighted averaging with otherfenestration that is not dynamic glazing shall not be permitted. *Dynamicglazing* is not required to comply with this section when both the lower andhigher labeled SHGC already comply with the requirements of Table 703.1.6.1.	
Reason:	On behalf of Dr. Helen Sanders, SAGE Electrochromics, Inc. Consistency with IECC. This adds the same language from the 2015 IECC clarifying how to determine compliance for dynamic glazing. Dynamic glazing offers the unique ability to reversibly change properties such as SHGC and VT to optimize energy performance, daylighting, and glare based on changing situations during the day, and over different seasons. As such, dynamic glazing represents a key technology on the route to zero energy buildings. The NFRC label for dynamic glazing lists two values for SHGC, representing the range over which the SHGC varies. It was previously not clear how this label should be used to determine compliance with maximum or minimum SHGC requirements, so this language was added to the 2015 IECC, including provisions for dynamic range (ratio of the high to low SHGC) and automatic control to ensure optimum performance. This should be a straightforward proposal for consistency with the IECC, but please contact me if you would like further information.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5293	703.1.6.2 Enhanced Fenestration Specifications
Submitter:	Thomas Culp, Birch Point Consulting LLC	
Requested Action:	Add new as follows	
Proposed Change:	*Dynamicglazing* shallbe permitted to satisfy the SHGC requirements of Tables 703.1.6.2(a), 703.1.6.2(b), and 703.1.6.2(c) provided the ratioof the higher to lower labeled SHGC is greater than or equal to 2.4, and the *dynamicglazing* is automatically controlled to modulate the amount of solar gaininto the space in multiple steps. *Dynamic glazing* shall be consideredseparately from other fenestration, and area-weighted averaging with otherfenestration that is not dynamic glazing shall not be permitted. *Dynamicglazing* is not required to comply with this section when both the lower andhigher labeled SHGC already comply with the requirements of Tables 703.1.6.2(a), 703.1.6.2(b), and 703.1.6.2(c).	
Reason:	On behalf of Dr. Helen Sanders, SAGE Electrochromics Inc. Consistency with IECC. This adds the same language from the 2015 IECC clarifying how to determine compliance for dynamic glazing. Dynamic glazing offers the unique ability to reversibly change properties such as SHGC and VT to optimize energy performance, daylighting, and glare based on changing situations during the day, and over different seasons. As such, dynamic glazing represents a key technology on the route to zero energy buildings. The NFRC label for dynamic glazing lists two values for SHGC, representing the range over which the SHGC varies. It was previously not clear how this label should be used to determine compliance with maximum or minimum SHGC requirements, so this language was added to the 2015 IECC, including provisions for dynamic range (ratio of the high to low SHGC) and automatic control to ensure optimum performance. This should be a straightforward proposal for consistency with the IECC, but please contact me if you would like further information.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5296	703.1.6.2 Enhanced Fenestration Specifications

Submitter:	Jeff Inks, Window & Door Manufacturers Assn.
Requested Action:	Revise as follows
Proposed Change:	**Table 703.1.6.2(b)** **Enhanced** Fenestration Specifications

Climate Zones	U-Factor Windows & Exterior Doors	SHGC Windows & Exterior Doors	U-Factor Skylights & TDD's	SHGC Skylights & TDD's	
1	~~0.40~~0.38	0.25	0.50	0.30	~~13~~ TBD
2	~~0.40~~0.38	0.25	0.50	0.30	~~9~~ TBD
3	0.30	0.25	0.50	0.35	~~9~~ TBD
4	0.28	0.40	0.50	0.40	~~4~~ TBD
5	0.25	Any	~~0.50~~0.49	Any	~~8~~ TBD
6	0.25	Any	~~0.50~~0.49	Any	~~9~~ TBD
7	0.25	Any	~~0.50~~0.49	Any	~~9~~ TBD
8	0.25	Any	~~0.50~~0.49	Any	9

Reason:	Revision consistent with 2012 revisions.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 5277	703.1.6.2 Enhanced Fenestration Specifications

Submitter:	Shelly Leonard, Green Space Consultants LLC
Requested Action:	Revise as follows
Proposed Change:	Table 703.1.6.2(a) Climate Zone Points 2 ~~5~~ 6 4 ~~2~~ 4 Table 703.1.6.2(b) Climate Zone Points 1 ~~13~~ 12 4 ~~4~~ 6 Table 703.1.6.2(c) Climate Zone Points 4 ~~5~~ 7
Reason:	Points seem under/over weighted in climate zones listed. Streamlines points allocation. All zones not listed and other chart data remain as is.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 5222	703.1.6.2 Enhanced Fenestration Specifications

Submitter:	Eric Lacey, RECA
Requested Action:	Revise as follows

Proposed Change:

703.1.6.2 The NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) do not exceed the values in~~are in accordance with~~ Table 703.1.6.2(a), (b), or (c). Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

Per Table 703.1.6.2(a)

Table 703.1.6.2(a)
Enhanced Fenestration Specifications

Climate Zones	U-Factor Windows & Exterior Doors	SHGC Windows & Exterior Doors	U-Factor Skylights & TDD's	SHGC Skylights & TDD's	[redacted]
1 and 2	~~0.60~~ 0.40	~~0.27~~ 0.25	~~0.70~~ 0.60	~~0.30~~ 0.28	10
~~2~~	~~0.60~~	~~0.27~~	~~0.70~~	~~0.30~~	~~5~~
3	~~0.35~~ 0.30	~~0.30~~ 0.25	~~0.57~~ 0.53	~~0.30~~ 0.28	6
4	~~0.32~~ 0.30	0.40	~~0.55~~ 0.53	~~0.40~~ 0.35	2
5 to 8	~~0.30~~ 0.27	Any	~~0.55~~ 0.50	Any	5
~~6~~	~~0.30~~	~~Any~~	~~0.55~~	~~Any~~	~~5~~
~~7~~	~~0.30~~	~~Any~~	~~0.55~~	~~Any~~	~~5~~
~~8~~	~~0.30~~	~~Any~~	~~0.55~~	~~Any~~	~~5~~

Reason:	This proposal is intended to update table (a) of the Enhanced Fenestration Specifications tables in Section 703.1.6.2. The NGBS currently has three enhanced fenestration tables, including table (a) based on current Energy Star (Version 5.0) requirements and two tables that go beyond Energy Star. This proposal would address only table (a) and update it from the previous Energy Star requirements to the values that will go into effect in 2015-2016 (Version 6.0). These values are moderate improvements over every climate zone in the current Table 703.1.6.2(a) that have been developed by the U.S. EPA. The proposal also simplifies the requirements by creating a single simplified table (a) with four climate zone categories, consistent with the Energy Star requirements.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 5223	703.1.6.2 Enhanced Fenestration Specifications

Submitter: Eric Lacey, RECA

Requested Action: Revise as follows

Proposed Change:

703.1.6.2 The NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) do not exceed the values in~~are in accordance with~~ Table 703.1.6.2(a)~~, (b), or (c)~~. Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

Table 703.1.6.2(a)
Enhanced Fenestration Specifications

Climate Zones	U-Factor Windows & Exterior Doors	SHGC Windows & Exterior Doors	U-Factor Skylights & TDD's	SHGC Skylights & TDD's	
1	0.60	0.27	0.70	0.30	10
2	0.60	0.27	0.70	0.30	5
3	0.35	0.30	0.57	0.30	6
4	0.32	0.40	0.55	0.40	2
5	0.30	Any	0.55	Any	5
6	0.30	Any	0.55	Any	5
7	0.30	Any	0.55	Any	5
8	0.30	Any	0.55	Any	5

~~**Table 703.1.6.2(b)**~~
~~**Enhanced Fenestration Specifications**~~

~~Climate Zones~~	~~U-Factor Windows & Exterior Doors~~	~~SHGC Windows & Exterior Doors~~	~~U-Factor Skylights & TDD's~~	~~SHGC Skylights & TDD's~~	
~~1~~	~~0.40~~	~~0.25~~	~~0.50~~	~~0.30~~	~~13~~
~~2~~	~~0.40~~	~~0.25~~	~~0.50~~	~~0.30~~	~~9~~
~~3~~	~~0.30~~	~~0.25~~	~~0.50~~	~~0.35~~	~~9~~
~~4~~	~~0.28~~	~~0.40~~	~~0.50~~	~~0.40~~	~~4~~
~~5~~	~~0.25~~	~~Any~~	~~0.50~~	~~Any~~	~~8~~
~~6~~	~~0.25~~	~~Any~~	~~0.50~~	~~Any~~	~~9~~
~~7~~	~~0.25~~	~~Any~~	~~0.50~~	~~Any~~	~~9~~
~~8~~	~~0.25~~	~~Any~~	~~0.50~~	~~Any~~	~~9~~

~~**Table 703.1.6.2(c)**~~
~~**Enhanced Fenestration Specifications**~~

~~Climate Zones~~	~~U-Factor Windows & Exterior Doors~~	~~SHGC Windows & Exterior Doors~~	~~U-Factor Skylights & TDD's~~	~~SHGC Skylights & TDD's~~	
~~4~~	~~0.25~~	~~0.40~~	~~0.40~~	~~0.40~~	~~5~~
~~5~~	~~0.22~~	~~Any~~	~~0.40~~	~~Any~~	~~9~~

Reason: This proposal is one of two options to simplify and improve the Enhanced Fenestration Specifications tables in Section 703.1.6.2 by modifying or eliminating tables (b) or (c). (A separate proposal has been submitted to update table (a).) This proposal focuses on tables (b) and (c) and does not address table (a).) The NGBS currently has three enhanced fenestration tables, including a table based on current Energy Star (Version 5.0) requirements and two tables that go beyond Energy Star – one of which only applies to two climate zones. The three enhanced options are unnecessarily complicated. This proposal would eliminate tables (b) and (c) as unnecessary and confusing and focus any enhanced fenestration on the Energy Star level under table (a).

TG Recommendation (AS or AM or D):

Modification of Proposed Change:

TG Reason:

TG Vote:

Proposal ID TBD	LogID 5224	703.1.6.2 Enhanced Fenestration Specifications

Submitter: Eric Lacey, RECA

Requested Action: Revise as follows

Proposed Change:

703.1.6.2 The NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) do not exceed the values in~~are in accordance with~~ Table 703.1.6.2(a)~~,~~ or (b)~~, or (c)~~. Decorative fenestration elements with a combined total maximum area of 15 square feet (1.39 m^2) or 10 percent of the total glazing area, whichever is less, are not required to comply with this practice.

Per Table 703.1.6.2(a) or Table 703.1.6.2(b) ~~or Table 703.1.6.2(c)~~

Table 703.1.6.2(a)
Enhanced Fenestration Specifications

Climate Zones	U-Factor Windows & Exterior Doors	SHGC Windows & Exterior Doors	U-Factor Skylights & TDD's	SHGC Skylights & TDD's	
1	0.60	0.27	0.70	0.30	10
2	0.60	0.27	0.70	0.30	5
3	0.35	0.30	0.57	0.30	6
4	0.32	0.40	0.55	0.40	2
5	0.30	Any	0.55	Any	5
6	0.30	Any	0.55	Any	5
7	0.30	Any	0.55	Any	5
8	0.30	Any	0.55	Any	5

Table 703.1.6.2(b)
Enhanced Fenestration Specifications

Climate Zones	U-Factor Windows & Exterior Doors	SHGC Windows & Exterior Doors	U-Factor Skylights & TDD's	SHGC Skylights & TDD's	
1 to 3	~~0.40~~ 0.30	~~0.25~~ 0.23	~~0.50~~ 0.45	~~0.30~~ 0.25	13
~~2~~	~~0.40~~	~~0.25~~	~~0.50~~	~~0.30~~	~~9~~
~~3~~	~~0.30~~	~~0.25~~	~~0.50~~	~~0.35~~	~~9~~
4	0.28	~~0.40~~ 0.30	~~0.50~~ 0.45	~~0.40~~ 0.30	4
5 to 8	0.25	Any	~~0.50~~ 0.40	Any	8
~~6~~	~~0.25~~	~~Any~~	~~0.50~~	~~Any~~	~~9~~
~~7~~	~~0.25~~	~~Any~~	~~0.50~~	~~Any~~	~~9~~
~~8~~	~~0.25~~	~~Any~~	~~0.50~~	~~Any~~	~~9~~

~~**Table 703.1.6.2(c)**~~
~~**Enhanced Fenestration Specifications**~~

~~Climate Zones~~	~~U-Factor Windows & Exterior Doors~~	~~SHGC Windows & Exterior Doors~~	~~U-Factor Skylights & TDD's~~	~~SHGC Skylights & TDD's~~	
~~4~~	~~0.25~~	~~0.40~~	~~0.40~~	~~0.40~~	~~5~~
~~5~~	~~0.22~~	~~Any~~	~~0.40~~	~~Any~~	~~9~~

Reason: This proposal is one of two options to simplify and improve the Enhanced Fenestration Specifications tables in Section 703.1.6.2 by modifying or eliminating tables (b) or (c). (Note that another proposal has been submitted to update table (a). This proposal focuses on (b) and (c) and does not address table (a).) The NGBS currently has three enhanced fenestration tables, including a table based on current Energy Star (Version 5.0) requirements and two tables that go beyond Energy Star. The three enhanced options are unnecessarily complicated. This proposal would modify table (b) and eliminate (c) as unnecessary. This proposal would modify table (b) to reduce it to three climate zone categories, with improvements that push the envelope on today's fenestration technologies. Our proposed table (b) is at least as stringent as the current table (b), and in most cases is about 10-25% more stringent than the current table.

TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	**LogID 5289**	**703.2.2 Furnace and/or boiler efficiency**

Submitter:	Neil Leslie, Gas Technology Institute
Requested Action:	Add new as follows
Proposed Change:	**GREEN BUILDING PRACTICES** / **POINTS** **(5)** Electric Furnace — Per Table 703.2.2(5) **Table 703.2.2(5)** **Electric Furnace** **AFUE** | Climate Zone 1 | 2 | 3 | 4 | 5 | 6-8 **POINTS** =100% AFUE | -2 | -3 | -6 | -9 | -12 | -12
Reason:	To provide a prescriptive option for electric resistance furnaces that aligns with IECC Section R405 electric heating system minimum performance requirements that are the basis of the performance requirements in Section 702.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	**LogID 5087**	**703.2.3 Heat pump heating efficiency**

Submitter:	Donald Prather, ACCA
Requested Action:	Revise as follows
Proposed Change:	703.2.3 Heat pump heating efficiency is in accordance with Table 703.2.3. Refrigerant charge is verified for compliance with manufacturer's instructions *utilizing methods approved in ACCA 5 QI-2010.*
Reason:	Every OEM approved method is included or accepted in the QI 5 instruction set. Later in the document this instruction is contradicted by selecting superheat and subcooling methods. ACCA will also recommend a similar change there to clarify instructions provided in this standard.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 5088	703.2.4 Cooling efficiency
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	703.2.4 Cooling efficiency is in accordance with Table 703.2.3. Refrigerant charge is verified for compliance with manufacturer's instructions *utilizing methods approved in ACCA 5 QI-2010.*	
Reason:	Every OEM approved method is included or accepted in the QI 5 instruction set. Later in the document this instruction is contradicted by selecting superheat and subcooling methods. ACCA will also recommend a similar change there to clarify instructions provided in this standard.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5089	703.2.5 Water source cooling and heating efficiency
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Add the following wording to table 703.2.5: *Refrigerant charge is verified for compliance with manufacturer's instructions utilizing methods approved in ACCA 5 QI-2010.*	
Reason:	For consistency with previous sections, these systems are charged systems too.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5090	703.2.6 Ground source heat pump installation
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Add the following wording to table 703.2.6: *Refrigerant charge is verified for compliance with manufacturer's instructions utilizing methods approved in ACCA 5 QI-2010.*	
Reason:	For consistency with previous sections, these systems are charged systems too.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5070	703.3.4 Duct Leakage
Submitter:	Philip LaRocque, LaRocque Business Management Services, LLC	
Requested Action:	Revise as follows	
Proposed Change:	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~~ 8 percent of the system design flow rate.	
Reason:	This change reflects the ENERGY STAR version 3 (later addendums) changes from 6% to 8% of the system design flow rate. This should have been changed in the 2012 NGBS but was not if we care to be consistent with ENERGY STAR in this regard.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 769	703.4 Water heating design, equipment, and installation
Submitter:	Gary Klein, Affiliated International Management, LLC	
Requested Action:		
Proposed Change:	New Sections Demand recirculation system is installed in single family units. Points awarded per circulation zone 1 Maximum points per building 2 Demand recirculation system is installed in multi-family units in place of a standard circulation pump and control. Points awarded per circulation zone 2 Maximum points per building 4	
Reason:	Waiting for hot water to arrive at fixtures wastes energy as well as water. In fact, the waste of energy gets worse as the flow rate goes down because the amount of water wasted goes up as the flow rate goes down. In multi-family buildings, a demand recirculation system can reduce the hours of operation of a typical system to less than 2 hours per day in retrofit applications, even lower in new buildings where the hot water piping is installed in accordance with the NGBS. There is electricity saved by reduced pumping energy, but the big savings is in the reduced heat loss in the loop. The reason for the large number of points is that water heating in multi-family buildings is equal to or larger than space heating in much of the country now and will certainly be true in buildings built in accordance with the NGBS.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 761	703.4.1 Water Heater Energy Factor
Submitter:	Gary Klein, Affiliated International Management, LLC	
Requested Action:		
Proposed Change:	Add a new line to Table 703.4.1(1)(b) Size (gallons Energy Factor[1] POINTS Any 0.97 10 1. Electric instantaneous water heaters have either an Energy Factor (capacity less than or equal to 12 kW) or a Thermal Efficiency (capacity greater than 12kW)	
Reason:	Electric instantaneous water heaters come in a wide variety of sizes (kW) and can be located very close to the points of use. This can reduce the energy needed for heating water by as much as 50 percent. Even when not located closer to the points of use, they are more efficient to operate than electric storage water heaters. They should be included in the table within the standard in the same way that gas instantaneous water heaters are.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5322	703.5.1 (2)
Submitter:	John M Schneider, City of Moundsville	
Requested Action:	Revise as follows	
Proposed Change:		
Reason:	Practice 703.5.1 (2) refers to a minimum efficiency of 40 Lumens / Watt for exterior lighting. Efficiency is a unit less value (watts out / watts in). Efficacy is a measure comparing different units of measure (lumens / watt). Practice 701.4.4 uses the correct Efficacy term. I believe Efficacy should be used in Practice 703.5.1 (2) as well?????	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5294	703.6.2 Window shading
Submitter:	Thomas Culp, Birch Point Consulting LLC	
Requested Action:	Revise as follows	
Proposed Change:	**703.6.2 Window shading.** Automatedsolar protection or *dynamic glazing*is installed to provide shading for windows.	
Reason:	On behalf of Dr. Helen Sanders, SAGE Electrochromics Inc. Dynamic glazing provides an equivalent method for window shading as traditional methods, by directly varying the SHGC and VT of the window rather than secondarily modifying it through an attachment. As such, dynamic glazing is already included as an alternative to exterior shading requirements in both the International Green Construction Code and ASHRAE 189.1, and its inclusion here is also appropriate.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5121	704.1 Additional Practice Points
Submitter:	Marie Nisson, TexEnergy/US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	704.2.4 **Non-unit lighting design**. Inmulti-family design interior, non-residential lighting to achieve the followinglighting power density (1) Less than or equal to 0.7 watts/sf (2) Less than or equal to 0.5 watts/sf (3)Less than or equal to 0.3 watts/sf	
Reason:	Encourage efficient lighting design in MF residential associated and non-unit spaces	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5091	704.2.1 Occupancy sensors (Lighting)
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	704.2.1 **Occupancy sensors.** Occupancy sensors are installed on indoor lights, and motion photo sensors are installed on outdoor lights to control lights *and/or occupancy sensors are installed with setback thermostats for HVAC equipment and hot water heaters.* (1) 25 Percent of lighting (2) 50 Percent of lighting *(3) HVAC System set back plus occupancy* *(4) Hot water heater occupancy*	
Reason:	Since HVAC and hot water heating use more energy they should be considered too as options for occupancy sensors. The two additional items recommended would result in a much larger energy savings than the lighting options and should be awarded more points.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5053	704.2.2 TDDs and skylights
Submitter:	Angelo Marasco, ODL	
Requested Action:	Revise as follows	
Proposed Change:	ENERGY STAR or equivalent tubular daylighting device (TDD) or skylight with sealed, insulated, low-E glass is installed in rooms without windows.	
Reason:	Similar to other NGBS sections that reference ENERGY STAR compliant or equivalent glazing this assures that the TDD being used meets a minimum standard of energy efficient performance.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5092	704.4.2 HVAC performance verification
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Change to make this section align with mandatory requirements in other sections: 704.4.2 Performance of the heating and/or cooling system is verified *by a third-party on-site inspection* ~~the HVAC contractor~~ in accordance with all of the following QI-5 2010 procedures: (1) Start-up procedure *documentations is completed and within OEM tolerances* ~~is performed in accordance with the manufacturer's instructions.~~ (2) Refrigerant Charge ~~is verified by~~ super-heat and /or sub-cooling method *recorded results are verified (when required)* (3) *When required, verification that:* Burner is set to fire at input level listed on nameplate. (4) *Verification that:* Air handler setting/fan speed is set in accordance with manufacturer's instructions. (5) *Verification that:* Total airflow is within ~~10 percent of design flow.~~ *The OEM requied operating range at all speeds the system will operate and within 20% of the design value.* (6) *Verification that:* Total external system static does not exceed equipment capability at rated airflow.	
Reason:	Change to make this section align with mandatory requirements in other sections: ACCA recommends making the minimum requirements for installing an HVAC system mandatory in section 701.4.1 and providing points for 3rd party verification. That verification could be done by the builder or another subcontractor.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5117	704.4.2 HVAC performance verification
Submitter:	Marie Nisson, TexEnergy/US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	701.4.1.3 **HVAC System set up.** Performance ofthe heating and/or cooling system is verified by the HVAC contractor inaccordance with manufacturer's instructions including all of the following: ~~(1) Start up procedure is performed in accordance withthe manufacturer's instructions~~ ~~(2) Refrigerant charge is verified by the super heatand/or sub cooling method~~ ~~(3) Burner is set to fire at input level listed onnameplate~~ ~~(4) Air handler setting/fan speed is set in accordancewith manufacturer's instructions~~ (1) Total airflow is within 10% of design flow (2) Total external system static does not exceed equipmentcapacity at rated airflow	
Reason:	704.4.2 (1-4) are basic requirements and recommended to be moved to mandatory practices [701.4.1.3(1-4)]. 704.4.2 (5) and (6) would change to (1) and (2) for credit	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5250	704.4.2 HVAC performance verification
Submitter:	Jeremy Velasquez, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	subsection (1) Start-up & subsection (2) Ref. Charge should be made Mandatory. Award the 3+ points for completions of subsections (3) through (6) - which will need to be performed by the HVAC contractor.	
Reason:	Proper refrigerant charge and start-up procedure is extremely important and affect the efficiency of the unit. Most MF teams will not choose this credit - and as a result the HVAC systems start up and charge are not properly performed or documented. subsections 3-6 will require equipment that contractors typically do not possess - and this is time consuming for a rater to self verify.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5303	704.5.2 Testing
Submitter:	aaron gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	Add 704.5.2.3 Duct Leakage (for Multifamily projects ONLY). The entire HVAC duct system...to be tested by third party...maximum air leakage is equal to or less than X (to be determined based on IECC baseline of 2015 NGBS) percent of system fan flow.	
Reason:	Duct leakage is not required under IECC Commercial Code (2009 or 2012). As this testing is not required by Code, multifamily projects should be rewarded for going beyond baseline CODE requirements to improve the energy efficiency of their project.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5128	704.5.2 Testing
Submitter:	Marie Nisson, TexEnergy/US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	704.5.2.3 Test ventilation in accordance with design (1) Test spot exhaust at point of origin or termination (2) Test supply and/or exhaust ventilation in accordancewith Appendix B	
Reason:	ENERGY STAR performance compliance is tested in Ch 7, these practices should be available for testing under other paths. Testing at exhaust termination is not safe or practical for many multifamily projects	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5076	704.5.2 Testing
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	Testing ~~above mandatory requirements~~ is conducted to verify performance.	
Reason:	It is not clear what "above mandatory requirements" is intended to mean. If the blower door result is supposed to be less than the 7 ACH50 of 701 then that should be specified.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5093	704.5.2.2 HVAC airflow testing
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Change to make this section align with mandatory requirements in other sections: (1) Measured flow at each supply and return register is ~~within 25 percent of design flow~~ *meets or exceeds the requirements in QI-5-2010* Total airflow ~~is within 10% of design flow.~~ *meets or exceeds the requirements in QI-5-2010*	
Reason:	Recommend changing the balancing verification requirements to align with QI-5. QI-5 took into account the accuracy of the tools used to measure and verify in the tolerances allowed. Thus, this third party check would be a natural fit with those requirements. For example if the contractor's tool was off by 5% when balancing to plus or minus 10% and the verifiers tool was off by 5% when verifying a properly done balance was within 10% could be given a failing grade.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5307	705.5 Additional renewable energy options
Submitter:	Lorraine Ross, L Ross Consulting Inc	
Requested Action:	Revise as follows	
Proposed Change:	705.5 ~~Additional~~ On-site renewable energy system ~~options~~. An on-site renewable ~~Renewable~~ energy system(s) is installed on the property: ~~(e.g., solar photovoltaic panels, building integrated photovoltaic system, wind energy system, on-site micro-hydro power system, active solar space heating system, solar thermal hydronic heating system, photovoltaic hybrid heating system)~~. ~~Points: 1 (Points awarded per 100 W of system rating per 2,000 square feet of total conditioned floor area of the building.)~~ Points: 1 Points awarded for every 100 W of system rating installed for every 2,000 square feet of total conditioned floor area of the building. No points shall 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. Note:: Also revise these definitions: ON-SITE RENEWABLE ENERGY SYSTEM. An energy generation system located on the building or building site that derives its energy from a renewable energy source. RENEWABLE ENERGY. Energy derived from renewable energy ~~sources that are regenerative or cannot be depleted~~. RENEWABLE ENERGY SOURCE. ~~Source of energy (excluding minerals)~~ Energy derived from ~~incoming~~ solar radiation, ~~including natural solar radiation itself, photosynthetic processes; from phenomenon resulting therefrom, including~~ wind, hydropower, waves, ~~and~~ tides, biogas, biomass, or geothermal energy. ~~and lake or pond thermal differences; from decomposition of waste material, including methane from landfills; from processes that use regenerated materials, including wood and bio-based products; and from the internal heat of the earth, including nocturnal thermal exchanges.~~	
Reason:	Reason: Adding and revising definitions for accuracy and to be in line with the I-codes. Several editorial changes are made for clarity and accuracy. The examples of systems have been deleted. Laundry lists such as these are not appropriate. The term Renewable Energy System is defined. There is a potential conflict that exists with solar thermal and geothermal heating, cooling, and water heating systems. These systems already get points via section 703. To avoid double counting a statement has been added to point users of these systems to the correct location for obtaining credit.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5071	Other for Chapter 7 (include section number and title below)
Submitter:	Philip LaRocque, LaRocque Business Management Services, LLC	
Requested Action:	Add new as follows	
Proposed Change:	704.6 ENERGY STAR or equivalent appliance(s) are installed: (1) refrigerator 5 (2) dishwasher 2 (3) washing machine 4	
Reason:	This change returns to the 2008 NGBS where a builder is rewarded for ENERGY STAR appliances as an excellent energy conservation tool (more cost effective than the 705 ENERGY SMART practice -though that should be retained)and returns to consistency with ES kilowatt hours saved factors. I recognize that the NGBS REM-based cost comparison report may reflect and reward this energy savings practice but this amendment is much more instructive and promotional for greater energy efficiency with a direct practice point structure for the ES appliance investment. In addition, we give water conservation points for ES dishwashers and washing machines in Chapter 8 so we should have some consistency on direct ES appliance rewards in Chapter 7. This should be available and keep the ENERGY SMART appliance practice points under Innovative Practices to further motivate the builder/buyer to do even more.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5152	Other for Chapter 7 (include section number and title below)
Submitter:	Stephen J Holzer, eM8s, LLC	
Requested Action:	Add new as follows	
Proposed Change:	**705.7 Building Information Modeling (BIM)** Project Teamuses BIM to develop a whole house energy model, andapplies the model to optimize energy efficiency.	
Reason:	Building Information Modeling (BIM) is a computer generated model based process that simulates planning, design, construction and operations for buildings. It is a single repository for both three-dimensional, two-dimensional, and material properties information that allows data interoperability of all stakeholders to better inform design and construction decisions with the goal of producing the best product possible. This information technology will increase design and construction efficiencies and decrease costs for builders and end users. BIM may also facilitate better communication, collaboration and coordination among building industry professionals and trades working on the same project. Credit should be given to Builders utilizing the open industry standards as defined in the National Building Information Modeling Standard.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5324	Other for Chapter 7 (include section number and title below)

Submitter: Randall Melvin, Winchester Homes, Inc.

Requested Action: Add new as follows

Proposed Change:

701.1.4 Alternate Compliance Path 2

Any building achieving a HERS Index score, corresponding to the scores shown in Table 701.1.4, shall be deemed to comply with the indicated threshold level (bronze, silver, gold or emerald) for the NGBS Energy Chapter and receive the baseline NGBS Energy Chapter points established for that threshold level. Two additional NGBS points shall be awarded for each HERS Index point below the minimum required threshold levels shown.

Table 701.1.4

Climate Zone	Bronze Compliance Maximum Allowable HERS Index Score and base NGBS	Silver Compliance Maximum Allowable HERS Index Score	Gold Compliance Maximum Allowable HERS Index Score	Emerald Compliance Maximum Allowable HERS Index Score
1 and 2	59	55	45	39
3	59	55	45	39
4	63	59	49	43
5	63	59	49	43
6	62	58	48	42
7 and 8	60	56	46	40

Reason: The HERS Index is now an approved voluntary national standard - ANSI/RESNET 301-2014 making it available as a direct reference from the NGBS. The HERS index has widespread acceptance and use by builders, code officials, energy raters and consumers alike. Leveraging the benefits of the well established HERS Index will provide a familiar streamlined alternative for compliance with the Energy Chapter of the NGBS. The threshold HERS Index score provided for the Bronze level in Table 701.1.4, corresponds with the historical practice of the committee of making the bronze level of the Energy Chapter of the NGBS approximately 15% more stringent than the baseline energy code which in this case could be either the 2012 or 2015 IECC, as they are nearly identical in their stringencies. The Emerald threshold has been set at the “practical achievable” limit and silver and gold levels set at intermediary interpolated levels between bronze and emerald. The additional 2NGBS points awarded for every additional point reduction in HERS Index scores, below the established threshold limit, were added to parallel a recent improvement made to the NGBS. The NGBS now recognizes and provides incentive for performance efficiency improvements beyond achieving the base threshold points.

TG Recommendation (AS or AM or D):

Modification of Proposed Change:

TG Reason:

TG Vote:

Proposal ID TBD	LogID 5249	Other for Chapter 7 (include section number and title below)
Submitter:	Jeremy Velasquez, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	Under SECTION 704 - Additional practices: 1. Add option for "light" commissioning for unitary water heating systems - 5 pts 2. Add option for "light" commissioning for Lighting systems and controls - 5 pts (this particular scope of work would have to be clearly defined at a future date - or "borrowed" from LEED-NC type commissioning for water heating and lighting systems.	
Reason:	Commissioning of systems does provide some additional quality assurance that systems are installed and working properly- and therefore makes the project more energy efficient.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5234	Other for Chapter 7 (include section number and title below)

Submitter:	Eric DeVito, BBRS
Requested Action:	Add new as follows
Proposed Change:	**Chapter 2** **DEFINITIONS** **VISIBLE TRANSMITTANCE (VT).** The ratio of visible light entering the space through the fenestration product assembly to the incident visible light, Visible Transmittance, includes the effects of glazing material and frame and is expressed as a number between 0 and 1. **Chapter 7** **ENERGY EFFICIENCY**

704.2 Lighting		
704.2.4 Visible Light. In climate zones 1-4, windows, glazed doors (with more than 50% glazing) and skylights meet the requirements of Table 703.1.6.2(a), have a total area equal to at least 15% of conditioned floor area and, on an area-weighted average basis, have an NFRC-certified (or equivalent) VT that exceeds the following applicable minimum values:		
Windows Fixed Operable **Skylights**	0.42 0.32 0.49	**5**

Reason:	Natural light provides a variety of benefits to the occupants of a green home, many of which are not credited in the current ICC-700. Aside from the potential energy savings associated with the incorporation of daylight into lighting design, more natural light can increase indoor aesthetics, improve occupant health and provide a better connection between the occupants and the outdoors. The vast majority of residential windows are labeled with an NFRC label that includes a measurement of the visible light transmittance of the window unit, but currently there is no reference to visible light transmittance in ICC-700. The proposal above adopts the IECC definition of Visible Transmittance into ICC-700 and sets a very achievable minimum VT requirement. We have limited this proposal to climate zones 1-4 to coincide with the current fenestration requirements under the IECC and ICC-700 for climate zones 1-4 that include low-SHGC requirements. Although there are many products that achieve both a low SHGC and a high VT, there are also products and methods that reduce the amount of VT to levels that do not provide adequate natural light to the indoors. This proposal simply gives a credit for: (a) installing a reasonable amount of fenestration to increase the likelihood of windows placed to provide daylight, (b) selecting fenestration products that allow a moderate amount of natural light into the living space, and (c) selecting enhanced fenestration products (table 703.1.6.2(a)) to offset the impact of any increase in installed fenestration. For reference, because VT is expressed as a measurement between 0 and 1, a window unit (including frame) with a 0.32 VT is allowing 32% of the visible light into the interior space.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 5109	1301 General (Referenced documents)
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Add sections as required based on accepted ACCA recommendations	
Reason:	New locations for QI -5 citations should be included	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5110	1302 Referenced Documents
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Change Manual J to 2011 version	
Reason:	Latest update for code compliance	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5111	1302 Referenced Documents
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Change Manual D to 2014 Version	
Reason:	Latest update for code compliance	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5112	1302 Referenced Documents
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Change Manual S to version 2014	
Reason:	Latest update for code compliance	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5214	1302 Referenced Documents
Submitter:	Eric Lacey, RECA	
Requested Action:	Revise as follows	
Proposed Change:	IECC ~~2009~~ 2015 International Energy Conservation Code 701.1.1, 702.2.2	
Reason:	This proposal updates the references to the IECC in the Energy Efficiency Chapter with the latest edition of the IECC. The 2015 National Green Building Standard should support, and be completely integrated with, the complete family of 2015 International Codes. Although the 2012 IBC, IRC, and IECC are generally consistent in requirements and cross-references, the 2012 NGBS references the 2009 IECC. This inconsistency creates a host of problems, particularly for local building officials who must apply two different baselines to the IECC and ICC-700. It has been our experience that states, counties, and cities that support the use of “green” codes such as ICC-700 are more likely to be current in their mandatory energy conservation codes, so it makes sense to reference the 2015 IECC in the 2015 ICC-700. Although this proposal would effectively move the baseline IECC ahead two editions, the 2012 and 2015 IECC residential requirements are very close in terms of overall efficiency, so states, counties, or cities that have already adopted and are applying the 2012 IECC are most likely already meeting the 2015 IECC as well. The current inconsistency between ICC-700 and the IECC editions can be easily corrected in 2015 by updating all references to the International Codes to be internally consistent. If, for some reason, the Committee is reluctant to the update to the 2015 IECC, there is no reason to fail to update the NGBS, at a minimum, to the 2012 IECC.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

TG-6: Multifamily Proposals

Chapter 3: 304 Green Multi-Unit Buildings

Proposal ID TBD	LogID 5082	304.1 Multi-unit buildings
Submitter:	Thomas Culp, Birch Point Consulting LLC	
Requested Action:	Add new as follows	
Proposed Change:	**304.1 Multi-unitbuildings.** All residential portions of a building shall meet therequirements of this Standard. Partial compliance shall not be allowed. Unlessotherwise noted, all units and residential common areas within a multi-unitbuilding shall: 1) meet all mandatory requirements; and 2) achieve the pointthreshold required for the chosen environmental rating level in accordance withTable 303; and 3) achieve the same environmental rating level. Points for thegreen building practices that apply to multiple units shall be credited oncefor the entire building. Where points are credited, including where a weightedaverage is used, practices shall be implemented in all units, as applicable.Where application of a prescribed practice allows for a different number ofpoints for different units in a multi-unit building, the fewer number of pointsshall be awarded, unless noted that a weighted average is used. Alternatively, multi-unit buildings four-stories of morein height above grade plane that comply with the ICC IgCC shall bedeemed-to-comply with the Silver rating level of this Standard. *(Note: also add 2012 IgCC International Green Construction Code to Section 1302 Referenced Documents under ICC.)*	
Reason:	Mid and highrise multi-unit buildings that comply with ICC 700 at the Silver level are deemed to comply with the 2012 IgCC (section 101.3.1). This is simply the reciprocal. Construction and equipment in higher buildings can be very different, so this will encourage those taller buildings to also seek compliance with green standards, whether the NGBS or IgCC.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5156	305.3.1 Applicability (Whole-building rating criteria)
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	The Provisions of Section 305.3 shall apply to remodeling of existing buildings. In addition to the foundation, at least one major structural system ~~(such as walls)~~ of the existing building shall remain in place after the remodel for the building to be eligible for compliance under Section 305.3. <u>This one major structural system must be</u> <u>applied as part of over 50% of the surface area of the wall, floor, ceiling, or roof assemblies.</u>	
Reason:	A definition of the term “major structural system” is not provided. Considering that there are various structural systems, the extent of what needs to be preserved for section 305.3 to apply, could vary. For example, structural systems might be roof trusses or shear structures limited to cores of multilevel buildings, and neither of those would be that extensive. Other structural systems, such as complete structural floors, would constitute far greater portions of buildings. Therefore, setting target that the system must be applied as part of over 50% of the surface area of the wall, floor, ceiling or roof assemblies helps clarify what needs to be preserved for section 305.3 to be applicable.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5149	305.3.5 Energy efficiency
Submitter:	Carl Seville, Seville Consulting	
Requested Action:	Add new as follows	
Proposed Change:	A third alternate compliance path is to achieve a minimum air leakage improvement in lieu of energy consumption reduction.	
Reason:	The requirement for either before or after HERS ratings or full year of before and after utility data is excessive and I believe it will discourage projects from seeking certification under the standard. A suitable alternate would be to require blower door test at completion and a requirement that the house meet a certain ACH50 or ELR, or a minimum % improvement from a before blower door test. Points could be provided for increased air leakage improvements.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5262	305.3.5 Energy efficiency
Submitter:	Neil Leslie, Gas Technology Institute	
Requested Action:	Revise as follows	
Proposed Change:	305.3.5.1 Energy Consumption Reduction. The reduction in energy consumption resultin from the remodeling shall be based on the estimated 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. The reduction shall be the percentage difference between the consumption per square foot before and after the remodel calculated as follows:	
Reason:	Aligns provision with IECC Section R405.3.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5182	11.1001.1 Building owner's manual is provided
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	**(5)** Information on local recycling and composting programs.	
Reason:	11.1001.1 states that information be included in the owner's manual as available and applicable. Information on composting programs should be referenced in part (5).	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5103	11.1001.1 Building owner's manual is provided
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	*(23) Documentation and OEM manuals as required in QI-5 2010*	
Reason:	QI-5 2010 designates documentation and owner training based on the type of equipment installed. Relisting every combination in this standard would be duplicative. By adding the QI-5 requirement all HVAC system types would be covered.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5104	11.1002.1 Training of building owners (1- and 2-family dwellings)
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	*(10) Owner training requirements as required in QI-5 2010*	
Reason:	QI-5 2010 designates information that is needed by owners with regards to maintenance. Relisting every combination in this standard would be duplicative. By adding the QI-5 requirement all HVAC system types would be covered.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5183	11.1002.1 Training of building owners (1- and 2-family dwellings)
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	(7) recycling and composting practices	
Reason:	Training on composting practices should be included in the training dealing with recycling and waste management.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5184	11.1003.1 Building construction manual
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Add new as follows	
Proposed Change:	(9) A Disassembly Plan with as-built drawings and the chemical and mechanical inventory yielding information about the method of disassembly of building systems and the properties of major materials and components.	
Reason:	A disassembly plan should be provided to the owner to facilitate deconstruction and disassembly of the home to maximize reuse and salvaging of materials during renovation or at the end of the building's useful life.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5105	11.1003.3 Maintenance manual
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	*(10) OEM Maintenance requirements as required in QI-5 2010*	
Reason:	QI-5 2010 designates information that is needed by owners with regards to maintenance. Relisting every combination in this standard would be duplicative. By adding the QI-5 requirement all HVAC system types would be covered.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5267	11.1004.1 Reserved - To Be Determined
Submitter:	Matt Belcher, Verdatek Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**11.1004** **Innovative Practices** **11.1004.1 Resilience** Dwelling incorporates one or more of the following resilience options, as applicable. Points for items 1 through 4 shall be granted only where such products are not required per the applicable building code. 1. High-wind resistant or impact resistant entry doors or garage doors are installed 2. Impact resistant glazing is installed. 3. High-wind resistant or impact resistant wall claddings are installed. 4. High-wind resistant or impact resistant roof coverings are installed. 5. The building is constructed in accordance with an approved above-code mitigation program (e.g. IBHS Fortified, Resilience Star or My Safe Florida Home). Lot incorporates one or more of the following resilience options, as applicable. 6. The entire building is constructed using flood damage-resistant materials. 7. The building is constructed with its lowest floor at least one foot above the elevation required by the building code or adopted by the jurisdiction, whichever is higher. 8. The building is constructed with its lowest floor at least two feet above the elevation required by the building code or adopted by the jurisdiction, whichever is higher. 9. The building is constructed with its lowest floor at least three feet above the elevation required by the building code or adopted by the jurisdiction, whichever is higher. 10. The building is located in Zone A and constructed on an open foundation system (pile foundations or isolated piers). 11. The building is constructed in accordance with an approved above-code flood mitigation program (e.g. IBHS Fortified, etc.).	
Reason:	With the focus on future enhancement of the model codes to provide for enhanced "Resiliant" construction, It is an opportunity to include reference in this "above code" standard to incentivise innvotaive practices and process that will demonstrate best practices for eventual application into the model codes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5176	11.601.2 Material usage
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	**(1)** Minimum structural member or element sizes necessary for strength and stiffness in accordance with advanced framing techniques that are in conformance with local building codes or structural design standards are selected.	
Reason:	Even though advanced framing techniques have been proven effective, in some instances because of local conditions, such as wind or seismic potential, some of the techniques are not allowed by local codes. It would be vigilant to mention possible code restrictions and recommend consulting building codes for the selection of suitable advanced framing technique options.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5178	11.602.1.9 Flashing
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Make part (6), “Through-wall flashing is installed at transitions between wall cladding materials or wall construction types,” mandatory.	
Reason:	Transitions between materials are typically continuous and present a great opportunity to insert flashing to allow for water to drain out of the walls and prevent water damage. Providing through wall flashing at transitions between wall cladding materials is just good practice and should be mandatory.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5179	11.605.2 Construction waste management plan
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	A construction waste management plan is developed, posted at the jobsite, and implemented with a goal of recycling or salvaging a minimum of 50 percent (by weight) of construction waste, excluding land-clearing waste.	
Reason:	Land-clearing waste should be excluded from the 50 percent calculation. Soil, vegetation, and rocks are heavy, bulky materials. When included in the total weight used to calculate the recycling rate, it can reduce the amount of higher-value materials, such as wood, concrete, and drywall, that is ultimately recycled.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5205	11.605.2 Construction waste management plan
Submitter:	Wes Sullens, StopWaste of Alameda County	
Requested Action:	Revise as follows	
Proposed Change:	A construction waste management plan isdeveloped, posted at the jobsite, and implemented with a goal of recycling orsalvaging a minimum of 50 percent (by weight) of construction waste. Land clearing debris and materials that areprocessed for recycling but are used as alternative daily cover at landfillsshall be excluded from the 50 percent requirement.	
Reason:	Materials that result from land clearing activity are often heavy and can skew results for other types of higher-value recycling and salvaging. Additionally, these materials are typically not landfilled because they are expensive to tip and robust markets are available to accept and recycled those land clearing materials. "Alternative Daily Cover" (ADC) is cover material other than earthen material placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging. The ADC materials that result from building are byproducts of construction and demolition waste processing facilities, yet they are not actually recycled (they do not re-enter the materials cycle) and are essentially deposited in landfills and stay there forever. Therefore, ADC should not be considered recycling in green building standards. ASHRAE 189.1, GreenPoint Rated, and LEEDv4 have all disallowed ADC to count as recycling, and so should this standard. Achieving 50% recycling by not including ADC and land clearing debris is widely available with jobsite best practices (source separation of materials on-site and sending those materials to specific recycling facilities), and by sending the remaining mixed-waste loads to facilities that sort offsite.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5180	11.605.4 Recycled construction materials
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Construction materials (e.g., wood, cardboard, metals, drywall, plastic, asphalt roofing shingles, or concrete) that cannot be salvaged and reused onsite are recycled offsite.	
Reason:	Onsite salvage and reuse is preferred to offsite recycling because of reduced hauling and transportation impacts; it should be emphasized that reuse is a higher priority.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5181	11.610.1.2.1 Product LCA
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Add two new impact categories: (e) Material Use and (f) Waste	
Reason:	Industry-wide efforts to promote the management of materials and products on a life-cycle basis are current. These life-cycle efforts ensure that materials are used more efficiently and effectively. To that end, the analyses need to provide us with adequate measures that capture material use and recovery. Using less material and recovering more is crucial to our economic and environmental future. Material use and waste are two additional impact categories that should be included.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5074	11.611.2 Sustainable products
Submitter:	Josh Jacobs, UL	
Requested Action:	Revise as follows	
Proposed Change:	(5) 50% or more of the gypsum board installed (by square feet) is certified to UL 100 ~~ULE ISR 100~~. (6) 50% or more of the door leafs installed (by number of door leafs) is certified to UL 102 ~~ULE ISR 102~~.	
Reason:	This is an update to existing references. UL 100 and 102 were finalized and published shortly after final voting for the NAHB National Green Building Standard was completed.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5106	11.701.4.1.1 HVAC system sizing (Mandatory practices)
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	*701.4.1.X* ***HVAC systems installation, and documentation.*** *Space heating and cooling systems are to be installed documented in accordance with ACCA QI 5-2010*	
Reason:	Add a new Mandatory Requirement: Other places in the document the same requirements are either awarded points or are mandatory.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5107	11.701.4.1.1 HVAC system sizing (Mandatory practices)
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	Add wording: 11.701.4.1.X **Radiant and hydronic space heating.** Where installed as a primary heat source in the building, radiant or hydronic space heating system is designed*, installed, and documented,* using industry-approved guidelines and standards (e.g.., ACCA Manual j, AHRI I=B=R, ACCA 5 QI-2010, or an accredited design professional's and manufacturer's recommendation.	
Reason:	This section does not have hydronic systems listed. Other places in the document the same requirements are either awarded points or are mandatory.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5099	11.701.4.1.1 HVAC system sizing (Mandatory practices)
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	*11.701.4.1.X **HVAC systems installation, and documentation.** Space heating and cooling systems are to be installed and documented in accordance with ACCA QI 5-2010*	
Reason:	Add a new Mandatory Requirement: Other places in the document the same requirements are either awarded points or are mandatory. ACCA recommends making them mandatory and awarding points for verification.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5225	11.701.4.1.1 HVAC system sizing (Mandatory practices)
Submitter:	Eric Lacey, RECA	
Requested Action:	Add new as follows	
Proposed Change:	**11.701.4.0 Minimum Energy Efficiency Requirements.** Additions, alterations, renovations, or repairs to an existing building, building system or portion thereof comply with the provisions of the International Energy Conservation Code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. An addition complies with the IECC if the addition complies or if the existing building and addition comply with the IECC as a single building.	**Mandatory**
Reason:	This proposal clarifies that additions, alterations, renovations, or repairs must meet the same requirements of the IECC that apply to new buildings, to the extent that the requirements are applicable. The language is based on Section R101.4.3 of the IECC so that there is consistency between the scope of the IECC and the scope of ICC-700 with respect to additions, alterations, renovations and repairs. Sections 11.701 and 12.701 both contain many of the IECC requirements as "mandatory" requirements for all projects, and seem to imply that these projects should meet the IECC, but there is no specific requirement that outlines the scope of the requirements. As with the IECC, portions of the building that are not altered by a renovation, addition, alteration, or repair will not be required to meet the IECC.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5227	11.701.4.1.1 HVAC system sizing (Mandatory practices)
Submitter:	Eric Lacey, RECA	
Requested Action:	Add new as follows	
Proposed Change:	**11.701.4.X Fenestration Specifications.** The NFRC-certified (or equivalent) U-factor and SHGC of newly installed windows, exterior doors, skylights, and tubular daylighting devices (TDDs) do not exceed the values in Table 703.1.6.1.	**Mandatory**
	11.701.4.X Replacement Fenestration. Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the NFRC-certified (or equivalent) U-factor and SHGC of the replacement fenestration unit do not exceed the values in Table 703.1.6.1.	**Mandatory**
Reason:	This proposal improves the consistency of Chapter 11 by requiring fenestration to meet the same level of efficiency, whether it is installed as part of new construction, a renovation or repair, or a simple fenestration replacement. These new sections simply reference the baseline fenestration requirements that currently apply to the prescriptive compliance option. The language is modeled after existing language in ICC-700 and the IECC. In fact, the replacement fenestration requirement has been in the residential chapter of every edition of the IECC since 2000. Neither of these sections requires a code user to replace a window in a given project. However, if an addition, window replacement or a renovation is planned that will involve replacing an entire fenestration unit, these sections would simply require that window, door, or skylight to meet the prescriptive requirements specified in Chapter 7.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5270	11.901.1.4 Gas fireplaces and direct heating equipment vented outdoors
Submitter:	Ted A. Williams, American Gas Association	
Requested Action:	Revise as follows	
Proposed Change:	**11.901.1.4** Newly installed gas fired fireplaces and direct heating equipment is listed and is installed in accordance with the NFPA 54, ICC IFGC, or the applicable local gas appliance installation code. ~~Gas-fired fireplaces and direct heating equipment are vented to the outdoors.~~ [a duplicative proposed change on **901.1.4** is submitted.]	
Reason:	Banning unvented or "vent-free" fireplaces and direct heating equipment, the net effect of this "mandatory" requirement, has never been justified in terms of environmental criteria consistent with a “green” standard. During deliberations on the 2012 Edition, air pollutant emissions associated with use of such products were not documented or referenced in terms of concentrations or specific effects on the indoor environment or human health. Likewise, the ban does not address positive environmental benefits associated with virtual 100% thermal efficiency of heating in the installed space and reduced need for central heating from spot heating afforded by unvented combustion heating appliances, in terms of environmental criteria consistent with a “green” standard. Air pollutant emissions associated with use of such products have not been documented or referenced in terms of concentrations or specific effects on the indoor environment or human health. Likewise, the ban does not address positive environmental benefits associated with virtual 100% thermal efficiency of heating in the installed space and reduced need for central heating from spot heating afforded by unvented combustion heating appliances, both of which reduce overall energy demand and externalities (including total air emissions) associated with less efficient heating approaches. These positive effects should be evaluated on balance with hypothesized negative effects associated with altered indoor air concentrations of the identified contaminants. No effort is made or documented to assess this balance. While points are proposed for use of these products, their banning from green building represents unbalanced and non-technical consideration of the net effects of their installation and use. The ban appears to appeal to simplistic views of environmental acceptability based on an “additive” impact on indoor air quality from operation of unvented combustion appliances. It ignores important design and product standardization considerations. For example, appliance sizing and, most directly, heat gain beyond tolerable limits in tight buildings impose a fundamental limit on the generation of combustion products. The tighter the installation location, the lower the firing rate and duration the appliance can be operated while avoiding intolerable temperatures. This principle has been applied to gas-fired residential cooking appliances since 1921 (ANSI Standard Z21.1), which associated combustion product loadings with the tightness of kitchens, emission factors from the appliances, and heat rise tolerances for occupants. A technical review in 1994, reviewed by U. S Consumer Product Safety Commission and considering modern air change rates, combustion product exposure criteria, and ASHRAE thermal comfort requirements confirmed the continued efficacy of this approach. Unvented fireplaces are design certified in the same manner. If unvented combustion appliances represent a public health or safety hazard, they should be prohibited from all occupancies (not just “green” buildings) because to do less would imply a toleration of unequal treatment of occupants with respect to health and safety. Standards development for “green” buildings would be better conducted on technically justified grounds and not focus on banning products based on heuristic arguments. It should be noted that proposed Addendum be to ASHRAE Standard 189.1, “Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings” would have imposed a similar ban of unvented fireplaces, but the Addendum has been returned to the 189.1 Standard Project Committee following public review and receipt of negative comments.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5101	11.902.2.1 Whole building ventilation system
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	(3) Heat-recovery ventilator *(HRV)* (4) Energy- recovery ventilator *(ERV)* *(5) HRV or ERV is used as exhaust fan for one or more bathrooms or for a kitchen application*	
Reason:	This should be provided as a 9 or 10 point option because it saves up to 45% on the energy losses caused by simple negative air pressure exhaust only outside air /make up air designs.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5102	11.904.2 Kitchen exhaust
Submitter:	Donald Prather, ACCA	
Requested Action:	Add new as follows	
Proposed Change:	11.904.2 **Kitchen Exhaust.** A kitchen exhaust unit(s) that equals or exceeds 400cfm (189 l/s) is installed and makeup air is provided *(1) ERV or HRV is installed to temper the outside air being brought in.*	
Reason:	Recommend making the makeup air requirement mandatory and awarding the 2 points for making it economical.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5155	Other for Chapter 11 (include section number and title below)
Submitter:	Stephen J Holzer, eM8s, LLC	
Requested Action:	Add new as follows	
Proposed Change:	**11.505.6 Building Information Modeling (BIM)**. Project Teamuses BIM planning, design, remodeling and simulating operation in order reducematerial waste and optimize performance.	
Reason:	Building Information Modeling (BIM) is a computer generated model based process that simulates planning, design, construction and operations for buildings. It is a single repository for both three-dimensional, two-dimensional, and material properties information that allows data interoperability of all stakeholders to better inform design and construction decisions with the goal of producing the best product possible. This information technology will increase design and construction efficiencies and decrease costs for builders and end users. BIM may also facilitate better communication, collaboration and coordination among building industry professionals and trades working on the same project. Credit should be given to Builders utilizing the open industry standards as defined in the National Building Information Modeling Standard.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5177	Other for Chapter 11 (include section number and title below)
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Add new as follows	
Proposed Change:	**11.601.9 Design for Disassembly**. Incorporate in the design interior elements, such as non-load-bearing walls, partitions, lighting and electric systems, suspended ceilings, raised floors and interior air distribution systems that can be disassembled, re-configured, and reused. Utilize connections that allow disassembly, such as reversible connections (e.g. screws, bolts, nails, clips).	
Reason:	The intent of 11.601 is to utilize design and construction practices that minimize the environmental impact of the building materials and to incorporate environmentally efficient building systems and materials. Employing design elements that can be disassembled, re-configured and reused, and utilizing connections that are reversible are important green building practices to ensuring buildings systems are environmentally efficient.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5148	12.0 Intent (Remodeling of Functional Areas)
Submitter:	Robert Hill, Home Innovation Research Labs	
Requested Action:	Revise as follows	
Proposed Change:	**12.0Intent.** This chapter sets forth the mandatory green building practices for remodeling functional areas of buildings. The intent of Chapter 12 is to address the most common remodeling projects: complete kitchen, full bathroom, complete basement, or an addition u~~nder 400 square feet~~ less than 50% of the original conditioned floor area. An attic conversion may be considered an addition. Chapter12 is not intended to be used for rating minor alterations.	
Reason:	The limitation of under 400 ft^2 is too limiting. The limit should be established such that major additions force the building to use chapter 11 but only adding a 20' x 30' room would not likely be certifiable via chapter 11 but is outside the existing scope. Also, converting an unfinished attic is a very green thing to do but it is not obviously within the scope of the current practice.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5185	12.1(A) Product or material selection
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Add new as follows	
Proposed Change:	**12.1 (A).605.1 Construction waste management plan**. A construction waste management plan that includes targets for diversion is developed, posted at the jobsite, and implemented.	
Reason:	Although renovation of functional areas may result in less waste generated, it is still prudent to develop a construction waste management plan that contains target rates for diversion of the waste from landfill.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5075	12.1(A).611.2 Sustainable products
Submitter:	Josh Jacobs, UL	
Requested Action:	Revise as follows	
Proposed Change:	(5) 50% or more of the gypsum board installed (by square feet) is certified to UL 100 ~~ULE ISR 100~~. (6) 50% or more of the door leafs installed (by number of door leafs) is certified to UL 102 ~~ULE ISR 102~~.	
Reason:	This is an update to existing references. UL 100 and 102 were finalized and published shortly after final voting for the NAHB National Green Building Standard was completed.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5228	12.1.701.4.1.1 HVAC system sizing
Submitter:	Eric Lacey, RECA	
Requested Action:	Add new as follows	
Proposed Change:	**12.1.701.4.X Fenestration Specifications.** The NFRC-certified (or equivalent) U-factor and SHGC of newly installed windows, exterior doors, skylights, and tubular daylighting devices (TDDs) do not exceed the values in Table 703.1.6.1. **12.1.701.4.X Replacement Fenestration.** Where some or all of an existing fenestration unit is replaced with a new fenestration product, including sash and glazing, the NFRC-certified (or equivalent) U-factor and SHGC of the replacement fenestration unit do not exceed the values in Table 703.1.6.1.	
Reason:	This proposal improves the consistency of Chapter 12 by requiring fenestration to meet the same level of efficiency, whether it is installed as part of new construction, a renovation or repair, or a simple fenestration replacement. These new sections simply reference the baseline fenestration requirements that currently apply to the prescriptive compliance option. The language is modeled after existing language in ICC-700 and the IECC. In fact, the replacement fenestration requirement has been in the residential chapter of every edition of the IECC since 2000. Neither of these sections requires a code user to replace a window in a given project. However, if an addition, window replacement or a renovation is planned that will involve replacing an entire fenestration unit, these sections would simply require that window, door, or skylight to meet the prescriptive requirements specified in Chapter 7.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5226	12.1.701.4.1.1 HVAC system sizing
Submitter:	Eric Lacey, RECA	
Requested Action:	Add new as follows	
Proposed Change:	**12.701.4.0 Minimum Energy Efficiency Requirements.** Additions, alterations, renovations, or repairs to an existing building, building system or portion thereof comply with the provisions of the International Energy Conservation Code as they relate to new construction without requiring the unaltered portion(s) of the existing building or building system to comply with this code. An addition complies with the IECC if the addition complies or if the existing building and addition comply with the IECC as a single building.	
Reason:	This proposal clarifies that additions, alterations, renovations, or repairs must meet the same requirements of the IECC that apply to new buildings, to the extent that the requirements are applicable. The language is based on Section R101.4.3 of the IECC so that there is consistency between the scope of the IECC and the scope of ICC-700 with respect to additions, alterations, renovations and repairs. Sections 11.701 and 12.701 both contain many of the IECC requirements as “mandatory” requirements for all projects, and seem to imply that these projects should meet the IECC, but there is no specific requirement that outlines the scope of the requirements. As with the IECC, portions of the building that are not altered by a renovation, addition, alteration, or repair will not be required to meet the IECC.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5108	12.1.701.4.5 Boiler supply piping
Submitter:	Donald Prather, ACCA	
Requested Action:	Revise as follows	
Proposed Change:	12.1.701.4.5 **Boiler supply piping.** *Insulate all* Newly installed boiler supply piping in unconditioned space ~~that is accessible during the remodel is insulated~~	
Reason:	New pipe will be accessible.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5186	12.2.607.1 Recycling
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	**12.2.607.1 Recycling and Composting.** Recycling and composting ~~is~~ are facilitated by one or more of the following methods:	
Reason:	Composting is not considered the same thing as recycling. Since the intent of the section is to facilitate composting as well as recycling, composting should be referenced by name in Section 12.2.607.1.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5187	12.3.801.5.1 Faucets
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	Newly installed lavatory faucets are WaterSense labeled and have a maximum…	
Reason:	We recommend referencing WaterSense labeled lavatory faucets.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5188	12.3.801.6 Water closets
Submitter:	Brett VanAkkeren, USEPA	
Requested Action:	Revise as follows	
Proposed Change:	All newly installed water closets have an effective flush volume of 1.28 gallons (4.85 L) or less when tested in accordance with ASME A112.19.2/CSA B45.1 or ASME A112.18.14 as applicable, and is ~~in accordance with EPA~~ WaterSense labeled ~~Tank-Type Toilets~~.	
Reason:	Simplify language to ensure that products are certified as meeting the WaterSense specification. As currently drafted, it could suggest that a product that met the specification but had not been certified as doing so could earn the points.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 5268	Other for Chapter 12 (include section number and title below)
Submitter:	Matt Belcher, Verdatek Solutions	
Requested Action:	Add new as follows	
Proposed Change:	**12.6** **Innovative Practices** **12.6.1 Resilience** Functional areas incorporate one or more of the following resilience options, as applicable. Points for items 1 through 4 shall be granted only where such products are not required per the applicable building code. 1. High-wind resistant or impact resistant entry doors or garage doors are installed. 1. Impact resistant glazing is installed. 2. High-wind resistant or impact resistant wall claddings are installed. 3. High-wind resistant or impact resistant roof coverings are installed. 4. The addition is constructed in accordance with an approved above-code mitigation program (e.g. IBHS Fortified, Resilience Star or My Safe Florida Home). Addition incorporates one or more of the following resilience options, as applicable:. 5. The addition building is constructed using flood damage-resistant materials. 6. The addition is constructed with its lowest floor at least one foot above the elevation required by the building code or adopted by the jurisdiction, whichever is higher. 7. The addition is located in Zone A and constructed on an open foundation system (pile foundations or isolated piers).	
Reason:	An important component of sustainable building is mitigation of natural hazards. Integrating resilience into new construction or during remodeling of existing housing stock provides an extra layer of protection. However, building-in disaster resilience can be difficult and costly. Deciding how (and when) to improve a structure requires much thought, time and capital. With the focus on future enhancement of the model codes to provide for enhanced "Resiliant" construction, It is an opportunity to include reference in this "above code" standard to incentivise innvotaive practices and process that will demonstrate best practices for eventual application into the model codes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		