

Proposed Changes

April 12, 2017

Standard Scope	1
Ad Hoc TGs	2
Special Issues	2
TG-2: Site and Lot Development.....	8
Chapter 4: Site Design and Development.....	8
Chapter 5: Lot Design, Preparation and Development.....	19
Others Assigned to TG-2	38
TG-3: Resource Efficiency and Indoor Environmental Quality	39
Chapter 6: Resource Efficiency	39
Chapter 9: Indoor Environmental Quality	55
Others Assigned to TG-3	70
TG-4: Water Efficiency, Operation & Owner Education	72
Chapter 8: Water Efficiency	72
Chapter 10: Operation, Maintenance, and Building Owner Education.....	84
Others Assigned to TG-4	90
TG-5: Energy Efficiency	91
Chapter 7: Energy Efficiency	91
Others Assigned to TG-5	132
TG-6: Multifamily	141
Chapter 3: 304 Green Multifamily Buildings	141
TG-7: Renovations and Additions	157
Chapter 3: 305 Green Remodeling	157
Chapter 11: Remodeling	158
Chapter 12: Remodeling of Functional Areas	191

TG-3: Resource Efficiency and Indoor Environmental Quality

Chapter 6: Resource Efficiency

Proposal ID TBD	LogID 6457	601.9 Above-grade wall systems
Submitter:	Ben Edwards, Spindale NC	
Requested Action:	Delete without substitution	
Proposed Change:	601.9	
Reason:	A green building standard should not promote the use of carbon-/energy-dense building materials without more guidance. Sections 610 (LCA) and 611.4 (EPD) already are the appropriate locations for the many benefits of mass walls to be considered in a holistic context.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6214	602.0 Intent (Enhanced Durability and Reduced Maintenance)
Submitter:	Eric Skare, Uponor	
Requested Action:	Add new as follows	
Proposed Change:	<u>602.5 Fire Sprinkler Systems. An automatic fire sprinkler system is installed in accordance with NFPA or ICC installation standards, or equivalent.</u> 4 points	
Reason:	Fire sprinkler systems provide significant benefits from a building durability standpoint, and drastically reduce the environmental impact of a fire in several ways. The primary justification for adding credit for fire sprinkler systems comes from the FM Global Research Technical Report titled Environmental Impact of Automatic Fire Sprinkler Systems. A link to this document is provided (http://www.iccsafe.org/gr/Documents/AdoptionToolkit/FM-Global-EnvironmentallImpactAutomaticFireSprinklers.pdf) and the document will be e-mailed as well.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6226	602.1.8 Water-resistive barrier
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<u>Have 3rd Party Water Barrier / Window Leakage Test conducted and Passed per Industry standards.</u>	
Reason:	passing a performance test will help ensure weather barrier is installed as intended /per design.....potentially heading off potential moisture /intrusion problems and associated costs	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		

TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6449	602.3 Roof water discharge
Submitter:	Craig Conner, Building Quality	
Requested Action:	Revise as follows	
Proposed Change:	602.3 Roof water discharge. A gutter and downspout system or splash blocks and effective grading are provided to carry water a minimum of 5feet (1524 mm) away from perimeter foundation walls <u>and directed onto landscaping or other permeable surface.</u>	
Reason:	This change more clearly states how roof water discharge should be directed. This change should be under only the name of "Howard C. Wiig, State of Hawaii, representing self"	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6298	603.1 Reuse of existing building
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Revise as follows	
Proposed Change:	Major elements or components of existing buildings and structures are reused, modified, or deconstructed for later use. <u>(AP-points is awarded for every 200 square feet (18.5m²) of floor area.8% of major elements or components of existing building reused and every 10% of major elements or components of existing building adapted or deconstructed. The percentage is consistently calculated on a weight, volume, or cost basis.)</u>	
Reason:	Depending on the floor plan and floor height, the reuse of the same 200 square-foot floor area may result in a reuse of different amounts of materials. A 200 square-foot floor area in one case may be unfinished and support a limited number of short, interior-type partitions. In another case, a 200 square-foot floor area may be fully finished and fully surrounded by heavier, exterior and/or load-bearing walls, while also incorporating tall interior partitions. The amount of material reused in the two cases would be distinctly different. While building reuse, adaptation and disassembly are all high on the waste management hierarchy, building reuse is a source reduction measure that has the potential to carry the greatest overall benefit. Award points based on comparable amounts of material reused; to that end, use percentages of materials affected, based on the weight, volume or cost of materials, and not the floor area. To reflect the greater benefit afforded by building reuse, allocate the maximum number of points to the reuse of major elements or components by awarding a point to every 8% reused, amounting to the total of 12 available points for this credit in the case of the reuse of 96% of major elements. Allocate a slightly lesser number of points to adaptation and disassembly of major elements or components by awarding a point to every 10% adapted or disassembled, amounting to the total of 10 points for the adaptation or disassembly of a 100% of major elements.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6346	604.1 Recycled content (Recycled-content building materials)
Submitter:	Cambria McLeod, Kohler	

Requested Action:	Delete without substitution
Proposed Change:	604.1 Recycled content. Building materials with recycled content are used for two minor and/or two major components of the buildings.
Reason:	To increase use of the standard, reduce the complexity and remove these calculations. Recycled content is captured through EPDs, which are easier for the end user to locate and provide a much better indicator as they focus on the outcome of the various inputs. Individually, single-attributes have little bearing on the final impact and are becoming antiquated, so they are being replaced with EPDs. Because EPDs are already a part of this standard, the available points that would be removed with this section could be added into the Product Declarations, Section 611.4, if the Standard was to keep the same number of threshold points.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6299	605.1 Construction waste management plan
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Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	<p>605.0 Intent. Waste generated during construction is recycled. All waste classified as hazardous is properly handled and disposed of.</p> <p style="text-align: right;">(Points not awarded for hazardous waste removal.)</p> <p>605.1 Hazardous Waste. The construction and waste management plan shall include information on the proper handling and disposal of hazardous waste. All hazardous waste is properly handled. <u>Mandatory</u></p> <p>605.42 Construction waste management plan.</p> <p>605.23 On-site recycling.</p> <p>605.34 Recycled construction materials.</p>
Reason:	The text that states points are not awarded for hazardous waste removal is ambiguous and can be misunderstood. An important subsection with the mandatory requirement that the construction waste management plan include information on the proper handling and disposal of hazardous waste is missing. (Do note that correcting the above issues in Chapter 6 will make the chapter consistent with the corresponding Chapter 11, Section 11.605.) To address these issues, delete from Subsection 605.0 Intent, the ambiguous text stating points are not awarded for hazardous waste removal. Add Subsection 605.1 Hazardous Waste. Reorder the current subsections of Section 605.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6300	605.1 Construction waste management plan
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Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows

Proposed Change:	<p>605.42 Construction waste management plan. ...diverting, through methods such as reuse, salvage, recycling or manufacturer reclamation, a minimum of 50 percent (by weight) of nonhazardous construction and demolition waste materials from disposal <u>in landfills and combustion, excluding energy and material recovery</u>. For this practice, land clearing debris is not considered <u>a construction and demolition material and is excluded from the calculation</u>waste. Materials used as alternative daily cover are considered construction waste and do not count toward recycling or salvaging.</p> <p>For remodeling projects or demolition of an existing facility, the waste management plan includes the recycling of 95 percent of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, fire and security control boards) by an EPA <u>third-party</u> certified E-Waste recycling facility.</p> <p>Exceptions: Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations. A recycling facility (traditional or E-Waste) offering material receipt documentation is not available within 50 miles of the jobsite.</p>
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Reason:	<p>The section instructs stakeholders to divert construction and demolition materials from disposal. Commonly, such language would clarify that the materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. (note that we are referring to “combustion” rather than “incineration;” although frequently misunderstood, combustion is a broader activity that does include energy and material recovery, but incineration is done so as to treat or resize waste for the purpose of disposal and does not include energy or material recovery; because of the common misunderstanding, we do recommend acknowledging energy recovery, but including it under the broader, correct activity, i.e., combustion.) The C&D debris that gets diverted is a resource (material) and not waste and should be referred to accordingly. It is unclear what is intended by an “EPA-certified” e-waste recycling facility; EPA does not “certify” e-waste recycling facilities. Currently, the Responsible Recycling Standard (R2) and the e-Stewards standard are the two available e-waste certification programs to which facilities may be certified. See: http://www.sustainableelectronics.org/ and http://e-stewards.org/ Finally, if the intent of the “Exceptions” section is to indicate specific circumstances when the practice does not apply, or to acknowledge situations when it cannot be met by the project team seeking the points, then it is unclear why the first item is listed. How is stating “Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations,” an Exception? (We would argue this is an exclusion from the calculation, not an exception from the practice - due to some imposed practical difficulties - and as such, it is most appropriately addressed in the language of the credit.) To address these issues, introduce that materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. Refer to construction and demolition materials and not waste. Replace “EPA-certified” e-waste recycling facility with “third-party certified” e-waste recycling facility. Delete the first item listed under Exceptions.</p>
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TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6327	606.2 Wood-based products
Submitter:	Rob Brooks, Rob Brooks & Associates	
Requested Action:	Delete and substitute as follows	
Proposed Change:	<p>606.2 Wood-based products. Wood or wood-based products shall be derived from a manufacturers’ fiber procurement system that has been audited by an <i>approved agency</i> as compliant with the provisions of:</p> <p>(a) ASTM D7612 as a responsible or certified source. Government or tribal forestlands whose water protection programs have been evaluated by an <i>approved agency</i> as compliant with the responsible source designation of ASTM D7612 are exempt from auditing in the manufacturers’ fiber procurement system.</p> <p>(b) National Wood Flooring Association’s Responsible Procurement Program (RPP)</p>	

<p>Reason:</p>	<p>• This proposed change related to the acceptance of forest products is vital to the use of ICC-700 in states where forest product production is an important source of revenue, such as Oregon. Neighboring states, such as Washington, Idaho and California also rely upon forest product production and support the use of sustainable forestry and best management practices to maintain (among other objectives) water quality. • The IgCC, USGBC Pilot Credit and the USDA BioPreferred Program currently recognize ASTM D7612 responsible and certified sources. The 2012 ICC-700 recognizes responsible sources through the SFI Fiber Sourcing program. Alternatively, SFI Chain of Custody is a certified source. (see attached table). All of the existing forest certification programs listing in ICC-700 are recognized by ASTM D7612. • ASTM D7612 provides a means to specify sustainable forestry via the certified sources designation without the reference to proprietary standards such as SFI, FSC, ATFS, etc. The American National Standards Institute’s (ANSI) Essential Requirements for Due Process, excludes specifying ecolabels—FSC, PEFC, SFI—that is, their brand name—because that would run afoul of ANSI’s prohibition on the use of commercial terms. It says in part, “[t]he appearance that a standard endorses any particular products, services or companies must be avoided.” Previously, there was no method to generically specify these ecolabels, but with the advent of the ASTM D7612, the generic reference is available, which should replace the proprietary ecolabel. The USGBC Pilot Credit recognizes this advantage and avoids comparison between proprietary systems to avoid improper commercial endorsement. • ASTM D7612 provides a means to specify enforcement of best management practices by governmental agencies that have authority to protect water quality on both certified and non-certified forestlands via the responsible source designation. For Oregon, enforcement is achieved through the Oregon Forest Practices Act (OFPA), regardless of whether the forestland is certified to sustainable forestry standards, or not. o Enforcement is defined as having authority, staffing, budget, proof of citations and the ability to adapt the rules to improve the system. Oregon forestlands subject to the OFPA have been independently audited and found compliant to the responsible source designation by PFS Corporation. o The emphasis on water quality for government or tribal forestlands is due to the existing rules already in place to protect forests (see https://cfpub.epa.gov/watertrain/moduleFrame.cfm?parent_object_id=1517 The degree to which these rules are enforced by each state has been evaluation by the National Association of State Foresters http://www.stateforesters.org/state-forestry-agency-best-management-practices-protecting-water#sthash.7VDEx3y6.dpbs The three tiers of enforcement are non-regulatory, quasi-regulatory and regulatory in order of increasing compliance. ASTM D76712 recognizes those states having quasi-regulatory and regulatory compliance under the responsible source designation. o The strength of the responsible sources program is the ability to issue citations (fines) for noncompliance to water quality rules and to reward states/jurisdictions that fund enforcement. Citations are issued to operators on both certified and non-certified forests. In some states, such as Oregon, the OFPA rules extend beyond water quality. Oregon producers want recognition of their compliance to OFPA, but not at the same tier as certified sources to avoid market confusion that responsible and certified sources are equivalent. o Manufacturers are required to trace fiber procurement under both the responsible and certified sources designation. Further information can be provided to the ICC-700 committee upon request. o The strength of the certified sources program is to write rules that extend beyond issues related to water quality. When damage to the forest happens from non-compliance, certified source programs can de-certify clients, they cannot issue citations or stop-work orders to remediate damage. o Thus, the responsible source program is an important enforcement component (and partner) to a certified source program. It will provide recognition for those states who actively monitor, enforce and punish offenders not in compliance with the law. It encourages states to enforce their water quality rules through inspection, documentation and citation, which is complementary to the voluntary sustainable forestry standards, or certified sources. It supports the “boots on the ground”, actively monitoring harvest operations on both public and private lands. o ASTM D7612 not only supports the expanded enforcement of existing water quality rules (aka best management practices), but also recognizes voluntary compliance to those sustainable forestry practices above and beyond state water quality rules. • In Oregon, the OFPA applies to approximately 10 million acres; of which approximately 4 million acres are certified forests. If the responsible source designation were also applied to federal and tribal lands, the designation would apply to approximately 30 million acres of forestland in Oregon. The fiscal implication of the responsible source designation is significant to the increased value of building products derived from private and public lands, which is why the state of Oregon is presenting this request. The responsible source designation provides states recognition of best management practice enforcement on public lands without the controversial decision and cost to convert to the certified source designation. Further information about ASTM D7612 is found at https://www.astm.org/standardization-news/?q=features/green-greener-greenest-ma17.html.</p>
<p>TG Recommendation (AS or AM or D):</p>	
<p>Modification of Proposed Change:</p>	
<p>TG Reason:</p>	

TG Vote:	
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Proposal ID TBD	LogID 6348	606.3 Manufacturing energy
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Submitter:	Cambria McLeod, Kohler
Requested Action:	Delete without substitution
Proposed Change:	Delete without substitution.
Reason:	Use of the word 'materials' is does not promote use of this section for final products which could have multiple materials or assemblies and could be from various locations. An effective way to capture this information for products, or materials, would be through EPDs. EPDs are more widely recognized in the industry and easier for Standard user to obtain. Individually, these single-attributes have little bearing on the final impact and are becoming antiquated, so they are being replaced with EPDs. Because EPDs are already a part of this standard, the available 6 points that would be removed with this section could be added into the Product Declarations, Section 611.4, if the Standard was to keep the same number of threshold points.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 1502	606.3 Manufacturing energy
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Submitter:	Todd Jones, Center for Resource Solutions
Requested Action:	Revise as follows
Proposed Change:	Materials manufactured using <u>renewable energy</u> for a minimum of 33 percent of the primary manufacturing process energy. <u>Non-electric energy used in manufacturing materials must be derived from (1) renewable sources, or (2) combustible waste sources, or (3) renewable energy credits (RECs) are used for major components of the building. Electricity used in manufacturing materials must be paired with renewable energy certificates (RECs), which must be retired. The building may purchase RECs on behalf of the building material supplier where the supplier has not purchased/used renewable electricity, with RECs, for manufacturing of building materials.</u> <u>Green-e certification (or equivalent) is required [or recommended] for renewable electricity purchases and materials manufactured using renewable electricity.</u>
Reason:	This requirement refers to renewable energy use in manufacturing of building materials, and therefore may refer to use of both electricity and non-electric energy in manufacturing. Currently, the options 1-3 are not differentiated as apply to either electricity or non-electric energy use. However, since RECs are required to claim use of renewable electricity in all cases, including from on-site renewable generation equipment, we suggest differentiating between electricity used in manufacturing, in which case RECs are required, and non-electricity energy used in manufacturing. It is also not clear that in option 3, RECs are being purchased by the building to be applied to the building materials, i.e. its supply chain, and not to the building's own electricity usage, and that RECs/RE may also be purchased or used by the supplier of the building materials. Finally, we recommend that Green-e certification be required, or at least recommended, to ensure that use of renewable electricity has been properly verified.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6301	607.1 Recycling and composting (Recycling and waste reduction)
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Submitter:	Susan Gitlin, US Environmental Protection Agency
Requested Action:	Revise as follows
Proposed Change:	<p>The section instructs stakeholders to divert construction and demolition materials from disposal. Commonly, such language would clarify that the materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. (note that we are referring to “combustion” rather than “incineration;” although frequently misunderstood, combustion is a broader activity that <u>does</u> include energy and material recovery, but incineration is done so as to treat or resize waste for the purpose of disposal and <u>does not</u> include energy or material recovery; because of the common misunderstanding, we do recommend acknowledging energy recovery, but including it under the broader, correct activity, i.e., combustion.)</p> <p>The C&D debris that gets diverted is a resource (material) and not waste and should be referred to accordingly.</p> <p>It is unclear what is intended by an “EPA-certified” e-waste recycling facility; EPA does not “certify” e-waste recycling facilities. Currently, the Responsible Recycling Standard (R2) and the e-Stewards standard are the two available e-waste certification programs to which facilities may be certified. See: http://www.sustainableelectronics.org/ and http://e-stewards.org/</p> <p>Finally, if the intent of the “Exceptions” section is to indicate specific circumstances when the practice does not apply, or to acknowledge situations when it cannot be met by the project team seeking the points, then it is unclear why the first item is listed. How is stating “Waste materials generated from land clearing, soil and sub-grade excavation and all manner of vegetative debris shall not be in the calculations,” an Exception? (We would argue this is an <u>exclusion from the calculation</u>, not an <u>exception from the practice</u>- due to some imposed practical difficulties - and as such, it is most appropriately addressed in the language of the credit.)</p> <p>To address these issues, introduce that materials should be diverted from disposal in landfills and combustion, excluding energy and material recovery. Refer to construction and demolition <u>materials</u> and not <u>waste</u>. Replace “EPA-certified” e-waste recycling facility with “third-party certified” e-waste recycling facility. Delete the first item listed under Exceptions.</p>
Reason:	<p>The spatial requirements to facilitate the recycling and composting of operational waste are vague. Typically, they would include the following criteria: • The dedicated spaces for the collection and storage of recyclables are accessible to both waste haulers and building occupants. • The dedicated spaces are of appropriate size and capacity to accommodate the collection and storage of recyclables and compostables for the entire building. • The recyclables and compostables for which to plan the collection and storage at a minimum include mixed paper, corrugated cardboard, glass, plastics, metals, green waste, food, and food soiled paper. • Food recovery is a top EPA priority. Organic materials make up the largest portion of the municipal solid waste stream and collection programs are expanding across the nation. Even if programs do not currently exist to manage these materials streams, dedicated collection space for future collection should be allocated. We therefore recommend clarifying the spatial requirements to facilitate the recycling and composting of operational waste.</p>
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6234	607.1 Recycling and composting (Recycling and waste reduction)
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<u>Multi Family Alternative to built in collection space - Management provides "blue box" recycling container or "blue Bins" and has designated recycling dumpsters onsite and /or contract with offsite sorting Recycling Facility</u>	
Reason:	provide alternative opportunity to encourage recycling to projects/tenants where space will prevent the built in option	

Parallel Proposal Staff Note:	<i>A parallel proposal was submitted by the same proponent for the corresponding section in Chapter 11 – Proposal LogID 6235. The parallel proposal is being reviewed by TG-6.</i>
Concurrent Review Staff Note:	<i>This proposal is also being reviewed by TG-6 (Multifamily) as the proposal will affect multifamily buildings.</i>
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6303	608.1 Resource-efficient materials
Submitter:	Susan Gitlan, US Environmental Protection Agency	
Requested Action:	Revise as follows	
Proposed Change:	<p>608.1 Resource-efficient materials. Products containing fewer materials are used to achieve same end-use requirements as conventional products, including but not limited to:</p> <ul style="list-style-type: none"> (1) Lighter, thinner brick with depth less than 3 inches and/or brick with coring of more than 25 percent (2) (1) Engineered wood or engineered steel products (3) (2) Roof or floor trusses 	
Reason:	<p>Since engineered wood, engineered steel products and roof or floor trusses are incorporated intermittently in the façade, and/or entirely in the interior, their dematerialization is not likely to jeopardize the structure's overall energy efficiency. In fact, filling with insulation those spots in the exterior walls where the unneeded mass of structural elements would otherwise have been, reduces the thermal bridging associated with structural elements in exterior walls and improves the structure's energy efficiency. Conversely, the continuous dematerialization of a façade material, such as brick, may require an addition of more insulation to compensate for the loss of volume all along the perimeter, just to achieve comparable energy efficiency. A more accurate assessment of the benefits of the dematerialization of façade materials can possibly be made and if there are benefits, points can be captured through Life Cycle Assessments (610.1.1 and 610.1.2) that apply a material consumption impact category in addition to categories measuring energy-consumption impacts through the manufacturing, construction and use life-cycle stages.</p>	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6337	609.1 Regional materials
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete without substitution	
Proposed Change:	<p>Regional materials. Regional materials are used for major and/or minor components of the building. For a component to comply with this practice, a minimum of 75% of all products in that component category must be sourced regionally, e.g.; stone veneer category — 75 percent or more of the stone veneer on a project must be sourced regionally.</p>	
Reason:	<p>To increase use of the standard, reduce the complexity and remove these calculations. Regional material impacts are captured through EPDs, which are easier for the end user to locate and provide a much better indicator as they focus on the outcome of the various inputs. Individually, single-attributes have little bearing on the final impact so they are being replaced with EPDs. Because EPDs are already a part of this standard, the 10 points removed with this section could be added into the Product Declarations, Section 611.4, if the Standard was to keep the same number of threshold points.</p>	

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

Proposal ID TBD	LogID 6304	610.1 Life cycle assesment
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Revise as follows	
Proposed Change:	<p>610.1.1 Whole-building life cycle assessment. A whole-building LCA is performed in conformance with ASTM E2921 using ISO14044 compliant life cycle assessment.</p> <p>Execute LCA at the whole-building level through a comparative analysis between the final and reference building designs as set forth under Standard Practice, ASTM E2921. The assessment criteria includes the following environmental impact categories:</p> <ul style="list-style-type: none"> a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. <u>Material Use</u> h. <u>Waste</u> i. <u>Water Use</u> j. <u>Pollution Discharges to Water</u> <p>...</p> <p>Execute full LCA, including <u>resource extraction or harvesting, manufacturing, construction, use and end-of-life phases</u>. For the use phase, calculate through calculation of operating energy impacts (c) – (f) using local or regional emissions factors from energy supplier, utility or EPA. <u>For the use phase, also include impacts associated with material replacements.</u></p> <p>610.1.2.1 Product LCA. A product with improved environmental impact measures compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment are selected from the following:</p> <ul style="list-style-type: none"> a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. <u>Material Use</u> h. <u>Waste</u> i. <u>Water Use</u> j. <u>Pollution Discharges to water</u> <p>610.1.2.2 Building Assembly LCA. A building assembly with improved environmental impact measures compared to an alternative assembly of the same function is selected...</p> <p>...The environmental impact measures used in the assessment are selected from the following:</p> <ul style="list-style-type: none"> a. Primary energy use b. Global warming potential c. Acidification potential d. Eutrophication potential e. Ozone depletion potential f. Smog potential g. <u>Material Use</u> h. <u>Waste</u> i. <u>Water Use</u> 	

	j. <u>Pollution Discharges to Water</u>
Reason:	Using less material and recovering more is crucial to our economic and environmental future. Material use and waste generation over the life cycle of a building should be modeled. In addition, the “full” life cycle assessment should include all life cycle phases, including extraction and harvesting, manufacturing, construction, use and end-of-life phases. While the NGBS-proposed language for whole-building life cycle assessment emphasizes that the assessment should include the use phase, it omits mentioning the other important phases. Finally, the language for the whole-building use phase indicates that impacts related to energy use should be evaluated, but remains silent on the need to evaluate impacts associated with the replacement of materials. To address these issues, we recommend adding the material use and waste impact categories to the assessment criteria. Emphasize that the boundary of the assessment should include the manufacturing, construction and end-of-life phases. Emphasize that the assessment of the use phase should include the analysis of impacts associated with the replacement of materials.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6357	610.1.2 Life cycle analysis for a product or assembly
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete without substitution	
Proposed Change:	610.1.2 Life cycle assessment for a product or assembly. An environmentally preferable product or assembly is selected for an application based upon the use of an LCA tool that incorporates data methods compliant with ISO 14044 or other recognized standards that compare the environmental impact of products or assemblies.	
Reason:	This is one of two removals of this grouping: 610.1.2 and 610.1.2.1. Asking a contractor or other Standard user to find an LCA tool and use it to select various inputs is not user-friendly, nor is it an effective way to understand the burden of that product. Essentially they would be guessing as to the inputs whereas the use of an EPD allows the manufacturer to utilize specific inputs, removing the guesswork. In general, many EPD’s reference LCA so the Standard is essentially giving points twice for this category.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6358	610.1.2.1 Product LCA
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete without substitution	
Proposed Change:	610.1.2.1 Product LCA. A product with improved environmental impact measure compared to another product(s) intended for the same use is selected. The environmental impact measures used in the assessment are selected from the following: (a) primary energy use (b) Global warming potential (c) Acidification potential (d) Eutrophication potential (e) Ozone depletion potential (f) Smog Potential	
Reason:	This is one of two removals of this grouping: 610.1.2 and 610.1.2.1. Asking a contractor or other Standard user to find an LCA tool and use it to select various inputs is not user-friendly, nor is it an	

	effective way to understand the burden of that product. Essentially they would be guessing as to the inputs whereas the use of an EPD allows the manufacturer to utilize specific inputs, removing the guesswork. In general, many EPD's reference LCA so the Standard is essentially giving points twice for this category.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD (Innovative Practices)	LogID 6360	611.1 Manufacturer's environmental management system concepts
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	Manufacturer's environmental management system concepts. Product manufacturer's operations and business practices include environmental management system concepts, and the production facility is registered to ISO 14001 or equivalent. The aggregate value of building products from registered ISO 14001 or equivalent production facilities is 1 percent or more of the estimated total building materials cost. Product Specific Declaration Improvements. Utilizing a Type III environmental product declaration (EPD), demonstrate an improvement over prior EPDs for the same product. (1 point awarded per improved product.)	
Reason:	The use of ISO 14001 adds minimal value and is not widely used because a facility could be ISO 14001 compliant and have negative impacts. Proving that a product's impacts, throughout its lifecycle, are improving over time is a more effective way to demonstrate innovation. Comparing a product's EPD from one year to the next can demonstrate improvement in environmental management systems, regardless of the type of facility registration.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6318	611.2 Sustainable products
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Revise as follows	
Proposed Change:	<p>611.2 Sustainable Products. One or more of the following products are used for at least 30% of the floor or wall area of the entire dwelling unit, as applicable. Products are certified by a third-party agency accredited to ISO 17065.</p> <p>50% or more of carpet installed (by square feet) is certified to NSF 140 <u>or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels.</u></p> <p>50% or more of resilient flooring installed (by square feet) is certified to NSF332 <u>or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels.</u></p> <p>50% or more of the insulation installed (by square feet) is certified to EcoLogo CCD-016 <u>or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels.</u></p> <p>50% or more of interior wall coverings installed (by square feet) is certified to NSF 342.</p> <p>50% or more of the gypsum board installed (by square feet) is certified to UL 100 <u>or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels.</u></p> <p>50% or more for the door leafs installed (by number of door leafs) is certified to UL 102.</p> <p>(7) 50% or more of the tile installed (by square feet) is certified to ANSI TCNA A138.1 Specifications for Sustainable Ceramic Tiles, Glass Tiles and Tile Installation Materials <u>or applicable standard/ ecolabel as stated in EPA's Recommendations of Standards and Ecolabels.</u></p>	

Reason:	We would like to suggest NGBS to expand their list to include other standards and ecolabels recommended by EPA for use in federal purchasing. EPA conducted an assessment of Ecolabels and Standards for federal procurement in the furniture, flooring, and paints & coatings categories. The assessment focuses on four sections: The process for developing standards, environmental effectiveness of the standard, conformity assessment, and management of ecolabeling programs. See EPA's Recommendations of Standards and Ecolabels (https://www.epa.gov/greenerproducts/recommendations-specifications-standards-and-ecolabels-federal-purchasing) for applicable standards/ ecolabels in construction product category. Please note, (4) and (6) are not product categories covered in the EPA Recommendations and therefore the additional language around using EPA Recommended Standards and Ecolabels was not added here. NSF 140, NSF 332, and TCNA A38.1 are currently included in the EPA Recommendations so the inclusion of the other applicable EPA Recommended standards and ecolabels into the NGBS standard would provide a wider range of sustainability standards that can be used for purchasing sustainable products. Also, please note that the correct title of the standard A138.1 is ANSI A138.1-2011 Green Squared Sustainable Tile and Installation Materials Specifications.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6195	611.3 Universal design elements
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	611.3 Universal design elements. Dwelling incorporates one or more of the following universal design elements. Conventional industry construction tolerances are permitted. <u>(1) High visibility address numbers at entrance to dwelling unit</u> <u>(2) Movement sensor light at entrance into dwelling unit</u> <u>(3) A sidelight or a peephole at 42 and 60 inches above the floor at entrance to dwelling unit</u> RENUMBER SUBSEQUENT ITEMS	
Reason:	Provide good overall lighting and house number for nighttime security and ease-of-use. Additional lowered peephole for seated or short adults and children. (Based on NC State University publication of universal design elements for residences.)	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6363	611.3 Universal design elements
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	<u>(6) All sink faucet controls are single-handle controls of both volume and temperature, lavatory and showering controls shall have cross or lever handles.</u>	
Reason:	The current language is design-limiting and also excludes other functional areas which could utilize universal design elements such as lavatories and showering areas. Cross and lever controls for all faucets and bathing/showering trim provide greater accessibility than controls with knob shapes. ADA and A117.1 allow center set, widespread and single handle controls.	
TG Recommendation (AS or AM or D):		

Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6228	611.4 Product declarations
Submitter:	Josh Jacobs, UL	
Requested Action:	Revise as follows	
Proposed Change:	611.4 Product declarations	
Reason:	The Innovative Practices section should be for things that are new to the marketplace. There are thousands of products in the marketplace that have Environmental Product Declarations. From bathroom products, ceiling systems, doors, flooring, hardware, HVAC, insulation, paints, to many more. While this concept may be new concept to some, it is not new to the marketplace in general, therefore it should be moved from the innovative practices section and into its own stand alone section of the Resource Efficiency Chapter.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6302	Other for Chapter 6 (include section number and title below)
Submitter:	Susan Gitlin, US Environmental Protection Agency	
Requested Action:	Add new as follows	
Proposed Change:	<p><u>608.2Design for Adaptation and Disassembly.</u> <u>For siding, windows, mechanical/electrical/plumbing (MEP) systems, wall paneling and flooring materials, incorporate three or more of the following measures, as applicable:</u></p> <ul style="list-style-type: none"> <u>Use reusable/recyclable materials. For example:</u> <ul style="list-style-type: none"> o <u>Use materials and fixtures for which take-back or reuse/recycling programs are established.</u> o <u>Use high-quality materials that exceed minimum performance standards.</u> o <u>Avoid use of coatings or adhesives that prevent reuse and recycling.</u> <u>Promote disentanglement of building components. For example:</u> <ul style="list-style-type: none"> o <u>To limit the destruction of the surrounding materials, incorporate installation details that permit easy removal and replacement of components.</u> o <u>Consolidate placement of MEP components in building floorplans and cross-sections.</u> <p><u>Provide access to and use reversible connections, such as screws, bolts, or clips.</u> <u>Provide disassembly and reuse information to owner.</u></p>	
Reason:	Section 608 currently includes a single subsection encouraging the dematerialization of building components. Design for Adaptation and Disassembly is similarly an upstream strategy to improve resource efficiency and therefore, fits with the upstream, resource-efficiency focus of this section. Design for Adaptation and Disassembly involves the utilization of recyclable/reusable building materials and preserves resources by maximizing their recovery and ensuring their continuous reutilization.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6351	Other for Chapter 6 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	Section 612 - <u>Add a new section as relevant for Health and Well-being credits.</u>	
Reason:	As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6442	Other for Chapter 6 (include section number and title below)																
Submitter:	Aaron Gary, US-EcoLogic																	
Requested Action:	Add new as follows																	
Proposed Change:	<p><u>ADD NEW SECTION</u></p> <p>611.X Resilient Construction. Buildings are designed to withstand severe weather per Table 611.X</p> <p><u>Table 611.3</u> Fortified Home Technical Requirements Level</p> <table border="1"> <thead> <tr> <th></th> <th>Points for Bronze</th> <th>Points for Silver</th> <th>Points for Gold</th> </tr> </thead> <tbody> <tr> <td><u>(1) Fortified Home Hurricane Technical Requirements</u></td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td><u>(2) Fortified Home High Wind Technical Requirements</u></td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td><u>(3) Fortified Home High Wind & Hail Bronze Technical Requirements</u></td> <td>X</td> <td>X</td> <td>X</td> </tr> </tbody> </table>			Points for Bronze	Points for Silver	Points for Gold	<u>(1) Fortified Home Hurricane Technical Requirements</u>	X	X	X	<u>(2) Fortified Home High Wind Technical Requirements</u>	X	X	X	<u>(3) Fortified Home High Wind & Hail Bronze Technical Requirements</u>	X	X	X
	Points for Bronze	Points for Silver	Points for Gold															
<u>(1) Fortified Home Hurricane Technical Requirements</u>	X	X	X															
<u>(2) Fortified Home High Wind Technical Requirements</u>	X	X	X															
<u>(3) Fortified Home High Wind & Hail Bronze Technical Requirements</u>	X	X	X															
Reason:	Rebuilding homes after severe weather is costly in terms of time, money, and materials. This green building standard should recognize projects that build resiliently.																	
TG Recommendation (AS or AM or D):																		
Modification of Proposed Change:																		
TG Reason:																		
TG Vote:																		

Proposal ID TBD	LogID 6229	Other for Chapter 6 (include section number and title below)
Submitter:	Josh Jacobs, UL	
Requested Action:	Add new as follows	
Proposed Change:	<u>611.5 Chemical Transparency.</u> A minimum of 10 different products installed in the building project, at the time of certificate of occupancy, comply with one of the following programs down to at least 0.1% (1000ppm) of the stated product: GreenScreen v1.2, Health Product Declaration, Cradle to Cradle v2 Basic level (or greater), Declare, or UL Product Lens.	
Reason:	With more and more of the public becoming interested in the chemicals around them, designers, architects, and builders are choosing products based on the chemical contents within it. This optional credit language will allow a residence that has taken this valuable information into account to get credit for taking this extra step in its transparency and product selection.	

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

Proposal ID TBD	LogID 6225	Other for Chapter 6 (include section number and title below)
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<u>Conduct "TBD" hours of documented onsite trades training. Documentation shows date /duration /trade and reason</u>	
Reason:	setting / showing expectations of the credit requirement is an ongoing process....one and done = none. Verifier and Contractor teamwork is the trick,with visual and hands on learning the best way to ensure thing pass early and often	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6243	Other for Chapter 6 (include section number and title below)
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<u>611.XX Conduct 3rd party Air Seal/ Compartmentalization Plan evaluation with pre and during construction Trades training.</u>	
Reason:	ensure air seal /compartmentalize measures are in plans and in scope of work.conduct training and provide guidance for correct/timely install practices early and as often as necessary	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6553	Other for Chapter 6 (include section number and title below)
Submitter:	Kat Benner, US-EcoLogic / TexEnergy	
Requested Action:	Add new as follows	
Proposed Change:	<u>611 HEALTH AND WELL BEING (...prior to INNOVATIVE PRACTICES)</u>	
Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.	
TG Recommendation (AS or AM or D):		

Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Chapter 9: Indoor Environmental Quality

Proposal ID TBD	LogID 6215	901.0 Intent (Pollutant Source Control)
Submitter:	Max Sherman, Lawrence Berkeley National Laboratory	
Requested Action:	Revise as follows	
Proposed Change:	Require compliance with ANSI/ASHRAE 62.2-2016	
Reason:	62.2-2016 is the only American National Standard for minimum acceptable indoor air quality. 1) Any home that wishes to be green must at least meet this requirement. 2) Establishing a lower requirement would be in violation of ANSI rules. 3) No other version of 62.2 (or any other ventilation standard) exists and the current (i.e. 2016) version needs to be used.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6570	901.1.4 Gas fireplaces and direct heating equipment vented outdoors
Submitter:	Craig Conner, Building Quality	
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 within dwelling units and direct heating equipment are vented to the outdoors. <u>Alcohol burning devices and kerosene heaters are vented to the outdoors.</u>	
Reason:	Recently there are have been efforts to include alcohol and kerosene bring devices as allowed in residences. These devices have no place in a green home without ventilation to the exterior.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6561	901.2.1 Solid fuel-burning fireplace, inserts, stoves, and heaters
Submitter:	Kat Benner, US-EcoLogic / TexEnergy	
Requested Action:	Revise as follows	
Proposed Change:	(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are EPA certified or Phase 2 Qualified insulated, fire-blocked, sealed and gasketed.	
Reason:	Mandating "EPA certified or Phase 2 Qualified" is extremely cost-prohibitive and thus nearly impossible. Recommend keeping the points and removing the Mandatory OR simply strike "EPA certified or Phase 2 Qualified". If the unit is insulated, fire-blocked, sealed and gasketed, this would be a reasonable requirement.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6203	901.2.1 Solid fuel-burning fireplaces, inserts, stoves, and heaters
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	(2) Factory-built, wood-burning fireplaces are in accordance with the certification requirements of UL 127 and are EPA certified or Phase 2 Qualified. - 6-4 Points	
Reason:	The EPA does not certify factory-built wood burning fireplaces so this reference is nonsensical. Very few fireplaces meet the EPA Phase 2 Qualified requirements and thus they are exorbitantly priced compared to other similar fireplaces. This Mandatory measures represents undue burden for projects and should be removed. Leaving it in-place as a Mandatory basically mandates no wood-burning fireplaces in all but the most custom of homes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6270	901.3 Garages
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<u>901.3. X Install CO detector/Monitor within 10 ft of Garage door (interior side)</u>	
Reason:	Points for going above Mandatory requirement. Easy / inexpensive health and safety measure	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6275	901.6 Carpets
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	(1) Wall-to-wall <u>No</u> carpeting is not installed adjacent to water closets and bathing fixtures in half/full bathrooms, kitchens, utility/laundry rooms or within 3 ft of entries.	
Reason:	Who wants soggy socks...or moisture issues. language needs to be more precise and in line with building best practice	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6496	902.1.5 Fenestration cross-ventilation
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Submitter:	John Barrows, P3 Builder Group
Requested Action:	Revise as follows
Proposed Change:	902.1.5 (a): “Operable windows, operable skylights, or sliding glass doors with a total area of at least 15 percent of the <u>ventilated</u> conditioned floor area are provided.
Reason:	Clarification to this practice is required. It is unclear in 902.1.5(a) as to how the compliance with this practice is calculated. Is this determined as a whole house? (Example: “Operable windows, operable skylights, or sliding glass doors with a total area of at least 15 percent of the entire home’s conditioned floor area are provided.”) Or is this calculated room-by-room? (Example: “Operable windows, operable skylights, or sliding glass doors are provided within each regularly occupied space, with a total area of at least 15 percent of each respective space’s conditioned floor area”). Also, a definition of “cross ventilation” and “stack effect” may be helpful.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6206	902.2.1 Whole building ventilation system
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	902.2.1 One of the following whole building ventilation systems is implemented and is in accordance with the specifications of Appendix B ASHRAE 62.2 and an explanation of the operation and importance of the ventilation system is included in either 1001.1 or 1002.2. DELETE APPENDIX B	
Reason:	As demonstrated during the NGBS 2015 Development Committee discussions, Appendix B, which includes only an excerpt of ASHRAE 62.2, does not adequately capture the depth or breadth of the Standard. Excerpting some of the calculations from 62.2 while leaving other out along with various exceptions results in more air being required to be delivered compared to if the whole Standard had been adopted.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6207	902.2.1 Whole building ventilation system
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Revise as follows	
Proposed Change:	902.2.1 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 1002.2. (1) exhaust or supply fan(s) ready for continuous operation and with appropriately labeled controls - 3 Points (2) <u>exhaust or supply fan(s) with automatic smart ventilation controls to limit ventilation during periods of extreme temperature and extreme humidity.</u> - 6 Points (2)(3) balanced exhaust and supply fans with supply intakes located in accordance with the manufacturer’s guidelines so as to not introduce polluted air back into the building - 6 Points (3)(4) heat-recovery ventilator - 7 Points	

	(5) balanced exhaust or supply fan(s) with automatic smart ventilation controls to limit ventilation during periods of extreme temperature and extreme humidity, and with intakes located in accordance with the manufacturer's guidelines so as to not introduce polluted air back in to the building - 8 Points (4)(6) energy-recovery ventilator - 8 Points
Reason:	Initial research in this area, funded by the U.S. Department of Energy (U.S. DOE), investigated the proof-of-concept for smart ventilation and estimated typical ventilation energy savings of 40% (Turner and Walker 2012) or about 15% of total heating and cooling load, with savings increasing to more than 50% on average for economizer-equipped homes.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6205	902.2.2 Whole building ventilation airflow tested
Submitter:	Aaron Gary, 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 <u>in accordance with ANSI/RESNET/ICC 380 and Section 902.2.1</u>	
Reason:	Not all ventilation systems can be tested at the point of exhaust and for many doing so while possible is not accurate. ANSI/RESNET/ICC 380 is an ICC approved Standard that includes guidelines for testing ventilation airflow at multiple locations, including the point of exhaust, so that the most appropriate and accurate means can be selected by the 3rd party verifier.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6541	902.3 Radon control
Submitter:	Craig Conner, Building Quality	
Requested Action:	Add new as follows	
Proposed Change:	<p>902.3.3 Radon testing. Radon testing is Mandatory for Zone 1. Exception: testing is not mandatory where the authority having jurisdiction has defined the radon zone as Zone 2 or 3.</p> <p>902.3.3.1 Testing specification. Testing is performed as specified in (a) though (j). Points 8</p> <p>(a) Testing is performed after the residence passes its airtightness test. (b) Testing is performed at the lowest level which will be occupied, even if the space is not finished. (c) Testing is not performed in a closet, hallway, stairway, laundry room, furnace room or bathroom. (d) Testing is performed with a commercially available test kit or with a radon monitor. Testing shall be in accordance with the manufacturer's instructions. (e) Testing can be performed by the builder or a third party. (f) Testing shall extend at least 48 hours or to the minimum specified by the manufacturer, which ever is longer. This initial testing can extend past occupancy. (g) Test results shall be provided directly to the homeowner by the test lab or testing party. The test results are not required to be delivered before occupancy. (h) An additional pre-paid test kit shall be provided to the homeowner to use when they choose. The test kit shall include mailing, or emailing the results from the testing lab to the homeowner. The homebuilder may also receive the test results. (i) This section does not require a specific test result, rather it requires the test be performed and the</p>	

	<p>results provided to the homeowner. (i) The homeowner shall be informed prior to occupancy and in writing that “A radon test result of 4 pCi/L or above is the ‘action level’ set by EPA.”</p> <p>902.3.3.3 Testing results. A radon test done in accordance with 902.3.3.1 and completed before occupancy receives a result of 2 pCi/L or less. 6 points</p>
Reason:	Individual homes can vary significantly in a specific home has higher levels of radon. Testing is the only practical way to know if a radon reduction system works. Add Jani Palmer, Physical Scientist, EPA, Indoor Environments Division as a co-proponent
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6540	902.3 Radon control
Submitter:	Craig Conner, Building Quality	
Requested Action:	Delete and substitute as follows	
Proposed Change:	<p>902.3 Radon reduction measures. Radon reduction measures are in accordance with ICC IRC Appendix F or 902.3.2. Zones are as defined in Figure 9(1).</p> <p>902.3.1 Radon reduction measures are Mandatory for Zone 1. Exception: radon reduction is not mandatory where the authority having jurisdiction has defined the radon zone as Zone 2 or 3. (a) a passive radon system is installed 6 points (b) an active radon system with a fan is installed. A fan-failure warning light or audible alarm shall be provided in the occupied space. The fan shall include a minimum of a five-year manufacturer’s warranty. 12 points</p> <p>902.3.2 Radon reduction option This option requires sections 902.3.2.1 through 902.3.2.6.</p> <p>902.3.2.1 Soil-gas barriers and base course. A base course in accordance with Section 506.2.2 of the IRC shall be installed below slabs and foundations. There shall be a continuous gas-permeable base course under each soil-gas retarder that is separated by foundation walls or footings. Between slabs and the base course, damp proofing or water proofing shall be installed in accordance with Section 406 of the IRC. Punctures, tears and gaps around penetrations of the soil-gas retarder shall be repaired or covered with an additional soil-gas retarder. The soil-gas retarder shall be a continuous 6-mil (0.15 mm) polyethylene or an approved equivalent.</p> <p>902.3.2.2 Soil gas collection. There shall be an unobstructed path for soil gas flow between the void space installed in the base course and the vent through the roof. Soil gases below the foundation shall be collected by a perforated pipe with a diameter of not less than 4 inches (10 cm) and not less than 5 feet (1.5 m) in total length. A tee fitting or equivalent method shall provide two horizontal openings to the radon collection. The tee fitting shall be designed to prevent clogging of the radon collection path. Alternately the soil gas collection shall be by approved radon collection mats or an equivalent approved method.</p> <p>902.3.2.3 Soil gas entry routes. Openings in slabs, soil-gas retarders, and joints such as, but not limited to, plumbing, ground water control systems, soil-gas vent pipes, piping and structural supports, shall be sealed against air leakage at the penetrations. The sealant shall be a polyurethane caulk, expanding foam or other approved method. Foundation walls shall comply with Section 103.2.3 of the IRC. Sumps shall be sealed in accordance with Section 103.2.2 of the IRC. Sump pits and sump lids intended for ground water control shall not be connected to the sub-slab soil-gas exhaust system.</p> <p>902.3.2.4 Soil gas vent. A gas-tight pipe vent shall extend from the soil gas permeable layer through the roof. The vent pipe size shall not be reduced at any location as it goes from gas collection to the roof. Exposed and visible interior vent pipes shall be identified with not less than one label reading “Radon Reduction System” on each floor and in habitable attics.</p>	

902.3.2.5 Vent pipe diameter. The minimum vent pipe diameter shall be as specified in Table 902.3.2.5.

TABLE 902.3.2.5 MAXIMUM VENTED FOUNDATION AREA

Maximum area vented	Nominal pipe diameter
2,500 ft ² (232 m ²)	3 inch (7.6 cm)
4,000 ft ² (372 m ²)	4 inch (10 cm)
Unlimited	6 inch (15.2 cm)

902.3.2.6 Multiple vented areas. In dwellings where interior footings or other barriers separate the soil-gas permeable layer, each area shall be fitted with an individual vent pipe. Vent pipes shall connect to a single vent that terminates above the roof or each individual vent pipe shall terminate separately above the roof.

902.3.2.6 Fan. Each sub-slab soil-gas exhaust system shall include a fan, or dedicated space for the post-construction installation of a fan. The electrical supply for the fan shall be located within 6 feet (1.8 m) of the fan.

Reason: This change adds a more readable and understandable radon reduction option. Elements of radon reduction are already required by the IRC, so those requirements are not repeated here. The result is simple and understandable radon text that will not require the NGBS to go to another document. The points for radon reduction systems with fans, called active systems, are increased relative to the passive systems, because the active system are much more effective. "Fan-powered radon reduction systems can apply 50 times more suction pressure at the suction points than passive systems. The chief advantage of a fan-powered radon system is that it always achieves a greater and more reliable radon reduction than passive systems." (Standard Practice for Radon Control Options for the Design and Construction of New Low-Rise Residential Buildings ASTM E1465-07a Section 6.5.5.1)

TG Recommendation (AS or AM or D):

Modification of Proposed Change:

TG Reason:

TG Vote:

Proposal ID TBD	LogID 6542	902.3 Radon control
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Submitter: Craig Conner, Building Quality

Requested Action: Add new as follows

Proposed Change: 902.3.3.4 Side venting. Side venting, rather than roof venting, of radon shall be permitted in radon reduction provided (a) through (e) are satisfied.
(a) the side venting is active with a fan installed. A fan-failure warning light or audible alarm shall be provided in the occupied space. The fan shall include a minimum of five year manufacturer's warranty.
(b) the side vent is a minimum of 5 feet from an operable opening into the residence and 2 feet from the rim joist. The side vent exhaust is not directed at an operable opening within 10 feet of the vent. The rim joists are air sealed and the home meets the air tightness requirements of the IRC/IECC.
(c) the side vent will not collect rainwater.
(d) the residence is tested in accordance 902.3.3.1
(e) the homebuilder provides a commitment for radon reduction after occupancy to below the action level if the initial test result comes back at the "action level" of 4 pCi/L or above. Radon reduction to less than 4 pCi/L shall meet this commitment.
The homebuilder may retest the home using a third party at the homebuilder's expense. The retest shall override the initial test. Where the authority having jurisdiction has certified parties for radon reduction the third-party tester shall be so certified.

Reason: Side venting provides an additional option that may be more practical in some cases. A side vent would not have the suction power provided by a passive through the roof vent, therefore a fan is required.

	Because some are skeptical of side venting, and this option is not included in existing standards, this option requires a test and a builder commitment to correct it if the "action level" is exceeded.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6543	902.3 Radon control
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Submitter:	Craig Conner, Building Quality
Requested Action:	Add new as follows
Proposed Change:	<p><u>902.3.1 Testing.</u> <u>Radon testing shall be in accordance with the following. Mandatory.</u> <u>(a) Approved testing devices</u> <u>Devices used for measuring radon shall be listed and labeled as having met minimum requirements established by the National Radon Proficiency Program (NRPP) or the National Radon Safety Board (NRSB) if the jurisdiction has no program for evaluating or approving devices where the testing is conducted.</u> <u>(b) Device instructions</u> <u>Detectors and devices shall be used in compliance with device-specific instructions provided by the manufacturer.</u> <u>(c) Device types</u> <u>a) Passive Devices refers to those that do not provide hourly readings; and</u> <u>b) Continuous Monitors are monitors that can integrate, record and produce reviewable readings in time increments of one hour. If a device is not capable of these functions or is not set to record readings each hour, it is functioning as a passive device and is not considered a continuous monitor.</u> <u>(d) Testing Strategies</u> <u>Conduct Simultaneous Testing, Continuous Monitor Testing or any combination of the two.</u> <u>a) Simultaneous Testing is defined two short-term tests at the same time at each location.</u> <u>b) Continuous Monitor Testing is testing using a continuous monitor at each location.</u> <u>(e) Mitigation Decisions</u> <u>If the average of 2 short-term tests or a Continuous Monitor meets or exceeds the World Health Organization's action level of 2.7 pCi/L, then install and activate a fan to the sub-slab soil gas exhaust system and test again. Provide test results to the homebuilder and homebuyer.</u></p>
Reason:	This change provides guidance on testing and testing devices. The only proponent of this change is Jani Palmer, Physical Scientist, EPA, Indoor Environments Division
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6209	902.6 Living space contaminants
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Submitter:	Aaron Gary, US-EcoLogic
Requested Action:	Revise as follows
Proposed Change:	<p><u>902.6 Living space contaminants</u> TC"902.6Living space contaminants"f C \ \ "3" . <u>Indoor contaminants are limited through the following:</u> <u>(1) The living space is sealed in accordance with Section 701.4.3.1 to prevent unwanted contaminants.- MANDATORY</u> <u>(2) A permanent shoe removal and storage space is implemented near the primary entryway. This space may not have wall-to-wall carpeting. - 3 POINTS</u></p>

Reason:	A majority of the dirt and dust in homes is tracked in by occupants. One of the most effective ways to reducing these indoor contaminants therefore is to encourage occupants and visitors to remove shoes at the door.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6268	902.6 Living space contaminants
Submitter:	Paul Gay, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<u>902.6.X MF Compartmentalization Breaks or Joints thru the residential unit envelope shall be sealed includes but not limited to HVAC boots sealed to sheetrock / sub floor, Fan casings</u>	
Reason:	new credit awards points to Encourage additional air sealing/compartmentalization	
Concurrent Review Staff Note:	<i>This proposal is also being reviewed by TG-6 (Multifamily) as the proposal will affect multifamily buildings.</i>	
Parallel Proposal Staff Note:	<i>Parallel proposal was submitted by the same proponent for the corresponding sections in Chapter 11 – Proposal LogID 6267 and Chapter 12 – Proposal LogID 6266. The parallel proposals are being reviewed by TG-7 as Chapters 11 and 12 fall under their direct purview.</i>	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6294	904.0 Intent (IAQ)
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<u>904.3 Indoor Air Quality Metric. Dwelling receives a IAQ score using the DOE IAQ Metric of X. (threshold TBD)</u>	
Reason:	Recognize and encourage the adoption of the new DOE sponsored IAQ metric for indoor air quality.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6556	Other for Chapter 9 (include section number and title below)
Submitter:	Kat Benner, US-EcoLogic / TexEnergy	
Requested Action:	Add new as follows	
Proposed Change:	<u>905 HEALTH AND WELL BEING (...prior to INNOVATIVE PRACTICES)</u>	

Reason:	To include a new sub-section within each chapter of the Protocol, as relevant, immediately preceding (or after) Innovative Practices section, to address health and well being issues that are interconnected to the overall Green certification, but independent/optional, not required. This opens the program to reach lifestyle and living for overall occupant health.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6479	Other for Chapter 9 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	<p>New Section</p> <p>Section 906.7 - Air Quality Testing. <u>The quality of the air within conditioned space is verified before occupancy by performing one or more of the following tests:</u></p> <p>(1) <u>Formaldehyde level testing.</u></p> <p>(2) <u>Total VOC level testing.</u></p> <p>(3) <u>Carbon Monoxide level testing.</u></p> <p>(4) <u>PM 10 & PM 2.5 (Particulates) testing.</u></p> <p>(5) <u>Ozone level testing.</u></p> <p>(6) <u>Radon level testing.</u></p>	
Reason:	Indoor pollutants can cause a variety of health issues and conditions. Testing can verify that living spaces are free of high concentrations of specific VOC's or other irritants.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6473	Other for Chapter 9 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	<p>New Section</p> <p>Section 906.1 - Enhanced Air Filtration - Meet one of the following two options:</p> <p>(1) <u>Design for Secondary Filter Rack Space for Carbon Filters.</u></p> <p>(2) <u>Install a Permanent Stand Alone Air Purification System that is appropriately sized for the home or dwelling unit.</u></p>	
Reason:	Secondary filtration provides a higher assurance of consistent air quality throughout the year. Standard filters cleanse the air, but there is still opportunity for further air purification.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6474	Other for Chapter 9 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section <u>Section 906.2 - Anti-microbial high-touch surfaces - Abrasion-resistant, non-leaching surfaces with antimicrobial properties are installed. (high touch surfaces: kitchen and bathroom counter tops, doorknobs, electrical switches)</u>	
Reason:	This measure reduces risk for spread of bacteria and other harmful microbes and therefore reduces the risk of future infections, which contributes to overall occupant health.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6475	Other for Chapter 9 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section <u>Section 906.3 - Documented plan for dedicated exercise/fitness space - Minimum 3% of Conditioned Square Footage of the home is dedicated to an exercise area. For multifamily projects: 250 square feet or more of common area must be dedicated to exercise space.</u>	
Reason:	Permanent exercise space contributes to a lower risk of health concerns and promotes exercise and fitness.	
Concurrent Review Staff Note:	<i>This proposal is also being reviewed by TG-6 (Multifamily) as the proposal will affect multifamily buildings.</i>	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6576	Other for Chapter 9 (include section number and title below)
Submitter:	Craig Conner, Building Quality	
Requested Action:	Add new as follows	
Proposed Change:	Simplified IAQ compliance. Compliance with the items below constitutes compliance with this chapter. at the silver level. Combustion appliances get combustion air and vent to the outdoors. Balanced ventilation is used in the home. A radon reduction system or a radon test below at or below 2 pCi/L	
Reason:	This is a simple compliance method for the IAQ requirements which can otherwise be complicate.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		

TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6418	Other for Chapter 9 (include section number and title below)
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<u>902.2.5 Whole building ventilation system in installed with a automatic notification device to communicate performance degradation or failure. - 6 points</u>	
Reason:	2015 FSEC study (FSEC-CR-2002-15) showed a wide disconnect between the perceived and actual effectiveness of whole building ventilation systems in homes. The study found that of the homes surveyed only 5% of homes had a whole building ventilation system that was actually delivering the expected air as found while at the same time 48% of these same homeowners said they were happy with the performance of their whole building ventilation system. Existing and emerging technologies that can help address this disconnect should be well rewarded. The installation of non-performing ventilation systems both wastes resources and degrades the value of green building in the marketplace.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6355	Other for Chapter 9 (include section number and title below)
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	<u>905.X Access to daylight. To promote health and well being of occupants the following measures are implemented:</u> (1) 75% of regularly occupiable spaces have windows, skylights, or glass doors. - 3 POINTS (2) 75% of regularly occupiable spaces have direct line of sight views to the outdoors. - 3 POINTS	
Reason:	Studies have shown that access to outdoor light and views increase health and productivity of building occupants.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6477	Other for Chapter 9 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	New Section <u>Section 906.5 - Isolation of Contamination Sources - Meet all of the following:</u> (1) <u>Cleaning Products are stored in negatively pressurized space.</u> (2) <u>Household storage (paints, sealants, adhesives, etc) are stored outside of conditioned space or are stored in negatively pressurized space.</u>	
Reason:	Chemicals and other household materials containing VOC's stored in living space can off-gas and cause various irritations including nausea or headaches. Odorless living space contributes to occupant health and well-being.	

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

Proposal ID TBD	LogID 6478	Other for Chapter 9 (include section number and title below)
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Submitter:	Jeremy Velasquez, TexEnergy Solutions
Requested Action:	Add new as follows
Proposed Change:	New Section <u>Section 906.6 - Sound Barriers - Minimize sound transfer between public & private space with proper wall construction methods. Proper wall construction includes proper acoustical sealing and continuous sound insulation batts separating sleeping areas from other functional spaces within a home or dwelling unit.</u>
Reason:	Noise transfer from public living space can be disturbing to occupants seeking rest or peaceful relaxation in sleeping areas. Acoustic comfort contributes to tenant well-being.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6427	Other for Chapter 9 (include section number and title below)
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Submitter:	Aaron Gary, US-EcoLogic
Requested Action:	Add new as follows
Proposed Change:	<u>905.X Outdoor Living. Meet any or all of the following:</u> (1) Built-in outdoor kitchen (4 points) (2) Built-in outdoor fireplace (no indoor fireplace installed) (3 points) (3) Plumbed outdoor shower (3 points) (4) Covered, usable front porch protecting entry door. Minimum depth: 6'; minimum area: 100 sq. ft. (3 points) (5) Covered, usable porch other than front porch. Minimum side dimension: 6'; minimum area 100 sq. ft. One of the above porches fully screened (2 points) (6) Uncovered patio. Minimum side dimension: 6'; minimum area: 100 sq. ft. (1 point)
Reason:	To reduce sources of indoor heat and humidity and associated indoor air quality issues by encouraging occupants to take advantage of outdoor living. Could fit in with other Health and Wellness credits to form a new section.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6476	Other for Chapter 9 (include section number and title below)
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Submitter:	Jeremy Velasquez, TexEnergy Solutions
Requested Action:	Add new as follows
Proposed Change:	New Section Section 906.4 - Exterior Noise Intrusion - Meet one of the following two options: <u>(1)Average Sound pressure level from outside noise does not exceed 50 DBA when measured.</u> <u>(2)All exterior wall assemblies are design to meet an STC rating of 55. Reference: HUD Chapter 4 Supplement - Sound Transmission Class Guidance.</u>
Reason:	Prolonged exterior noise can contribute to occupant stress, which can trigger other health issues.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	

Proposal ID TBD	LogID 6419	Other for Chapter 9 (include section number and title below)
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	902.2.X All HVAC filter locations are designed such that they are easily accessible to the occupant. - 3 POINTS	
Reason:	HVAC filters do not get changed when they are not accessible reducing the air quality and energy efficiency of the HVAC system and eventually leading to system failure.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6429	Other for Chapter 9 (include section number and title below)
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	ADD NEW SECTION 902.2.3 Factory-built, wood-burning fireplaces are EPA Phase 2 Qualified. - 6 points	
Reason:	Very few fireplaces meet the EPA Phase 2 Qualified requirements and thus they are exorbitantly priced compared to other similar fireplaces. This measure should be moved from being a Mandatory items to an optional credit.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6397	Other for Chapter 9 (include section number and title below)
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Submitter:	Eric DeVito, SMXB Law	
Requested Action:	Add new as follows	
Proposed Change:	905.3 Fenestration sensors. All operable windows, operable skylights, and doors shall have one or more of the following: (1) Interconnected or interlocking electronic devices or sensors that signal whether the windows, skylights, or doors are open or closed; or (2) Mechanical or electronic self-closing mechanisms.	2
Reason:	<p>Today's smart homes are incorporating an increasing number of monitors and systems that provide a variety of benefits. This proposal would create an "innovative practices" credit by awarding points for the installation of signaling sensors or self-closing mechanisms on operable windows, doors, and skylights. Interlocking devices or sensors may be placed on windows, doors, and skylights for numerous reasons, including HVAC operation, improved energy efficiency, ventilation, or security. In fact, a single device may provide several different benefits now and in the future. The value of interconnected building components is already recognized in ASHRAE Standard 90.1-2013 and California Title 24, which both include requirements for interlocking electronic devices on windows and doors that send a signal to the thermostat when the windows or doors are opened. Green homes will continue to trend in the direction of more monitoring and sensor-based operation. Rather than parse out individual points for specific features, we recommend providing two points (or more, if the Committee prefers) for the range of innovative devices that may be installed on windows, doors, and skylights. ICC-700 should encourage "future-proofing" green homes by giving innovative practices credit for devices and practices that make the home smarter.</p>	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6424	Other for Chapter 9 (include section number and title below)
Submitter:	Aaron Gary, US-EcoLogic	
Requested Action:	Add new as follows	
Proposed Change:	ADD SECTION 902.2.7 Preoccupancy flush. Dwelling is flushed with outdoor air for 48 hours prior to occupancy. - 3 POINTS	
Reason:	<p>During the construction process dwellings become contaminated with dust, debris and off-gassing from materials. Flushing the dwelling with outdoor air prior to occupancy helps remove these potentially harmful pollutants from the space.</p>	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6356	Other for Chapter 9 (include section number and title below)
Submitter:	Jeremy Velasquez, TexEnergy Solutions	
Requested Action:	Add new as follows	
Proposed Change:	Section 906 - Add a new section as relevant for Health & Well-being credits.	
Reason:	<p>As sustainability protocols evolve, the natural progression is to include measures that have a positive benefit on occupant health and well-being.</p>	

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

Others Assigned to TG-3

Proposal ID TBD	LogID 6383	202 Definitions
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Revise as follows	
Proposed Change:	LCA (Life Cycle Analysis/Assessment). An accounting and evaluation of process to evaluate the potential environmental aspects and potential impacts <u>burdens</u> of materials, products, <u>assemblies</u> , <u>services</u> or buildings throughout their life (from raw material acquisition through manufacturing, construction, use, operation, demolition, and disposal).	
Reason:	LCA is about understanding the burdens and burden differences between different methods to achieve the same useful outcome. It is not the product that is the most important focus but rather the benefit that results from the evaluations. The terms aspects and impacts are difficult for many to differentiate and should be replaced with the word 'burden' which is clear and also used by the SETAC (Society of Environmental Toxicology and Chemistry) in their definition. The term 'assemblies' is not defined and could have multiple meanings. Utilizing products and services covers the intent and industry use of LCA processes.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD	LogID 6336	202 Definitions
Submitter:	Cambria McLeod, Kohler	
Requested Action:	Delete without substitution	
Proposed Change:	REGIONAL MATERIAL. Material that originates, is produced, grows naturally, or occurs naturally within: (1) 500 miles (804.7 km) of the construction site if transported by truck, or (2) 1,500 miles (2,414 km) of the construction site if transported for not less than 80 percent of the total transport distance by rail or water. Products that are assembled or produced from multiple raw materials are considered regional materials if the weighted average (by weight or volume) of the distance the raw materials have been transported meet the distance criteria.	
Reason:	To increase use of the standard, reduce the complexity, remove these calculations from the body of the Standard and therefore there is no need for the definition. Regional material impacts are captured through EPDs, which are easier for the end user to locate and provide a much better indicator as they focus on the outcome of the various inputs. Individually, single-attributes have little bearing on the final impact so they are being replaced with EPDs. Because EPDs are already a part of this standard, any points removed with this section could be reconfigured into the Product Declarations, Section 611.4.	
TG Recommendation (AS or AM or D):		
Modification of Proposed Change:		
TG Reason:		
TG Vote:		

Proposal ID TBD Specifications)	LogID 6563	B100 Scope and applicability (Whole Building Ventilation System
Submitter:	Craig Conner, Building Quality	
Requested Action:	Delete and substitute as follows	
Proposed Change:	<u>Replace whole Appendix with:</u> <u>The ventilation rate shall be as defined in IRC section M1507.3.3as equation 15-1 (shown below)</u>	

	<p><u>Ventilation rate in cubic feet per minute = (0.01 x total square foot area of house) + [7.5x (number of bedrooms + 1)] * coefficient</u></p> <p>- Where coefficient are as follows:</p> <p>- <u>Balanced/Distributed/Mixed Coefficient 0.75</u> <u>Example; HRV's/ERV's/ or supply linked with exhaust fan with forced air (furnace/AC) run time</u></p> <p>- <u>Unbalanced/Distributed/Mixed Coefficient 1.0</u> <u>Example; Exhaust fan or supply fan or supply air duct to air handler with forced air (furnace/AC) run time</u></p> <p>- <u>Unbalanced/Distributed/Not Mixed Coefficient 1.25</u> <u>Example; Multi point exhaust fan without a forced air system</u></p> <p>- <u>Unbalanced/Not Distributed/Not Mixed Coefficient 1.5</u> <u>Example; Single point exhaust fan without a forced air system</u></p> <p>Retain and renumber: Tables TABLE B201.1a&b Ventilation Air Requirements, cfm, which are taken from the IRC 1507.3.3(1)</p> <p><u>Balanced air flow is supply and exhaust within 20%. Points 10</u></p> <p>B201.1.2 Alternative Ventilation. Other methods may be used to provide the required ventilation rates when approved by a licensed design professional.</p> <p>B201.3 Airflow Measurement. The airflow required by this section is the quantity of outdoor ventilation air supplied and/or indoor air exhausted by the ventilation system as installed and shall be measured using a flow hood, flow grid, or other airflow measuring device. Ventilation airflow of systems with multiple operating modes shall be tested in all modes designed to meet this section.</p>
Reason:	The ASHRAE 62.2 ventilation rate has gotten too high. This removes the reference to ASHRAE. The NGBS should use the IRC ventilation rate in M1507.3.3. This adds consideration of ventilation quality. Balanced ventilation performs the best, hence less ventilation is needed.
TG Recommendation (AS or AM or D):	
Modification of Proposed Change:	
TG Reason:	
TG Vote:	