

Public Comments on 2024 National Green Building Standard Draft 1 w/ Task Group Recommendations

January 3, 2024

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Section 2: Definitions

PC001	ID 8388	202 DEFINITIONS
Submitter:	Nate Steeber, self	
Comment:	TROPICAL WOOD PRODUCTS. Products <u>using trees</u> sourced from between the Tropic of Cancer and Tropic of Capricorn.	
Reason:	A product can be sourced outside of the tropics, but still contain wood that comes from within the tropics.	
TG Recommendation:	Accept, 4-0-0	
TG Modification:		
TG Reason:		

Section 3: Compliance Method

PC002	ID 8427	303.2 Buildings
Submitter:	Abhishek Lal, Meridian Consulting, LLC	
Comment:	Revise point weighting so that Chapter 7 (Energy Efficiency) is comparable to or larger in total than other Chapters.	
Reason:	Energy points are only 11-13% of the points required for certification, and is the 3rd largest section behind Lot Design and Resource Efficiency. Consider re-allocating some points from Chapter 5 and 6 to Chapter 7 to incentivize energy performance and help address climate risks. Consider making point totals in Chapter 7 similar to or larger in total than Chapters 5, 6. Numerous jurisdictions are placing greater emphasis on energy efficiency and in those jurisdictions NGBS will be a more appealing and useful program if energy is more heavily weighted. For comparison with similar certifications, energy is the largest section by point total in Earthcraft and LEED.	
TG Recommendation:	Defer to CC, 12-1-1	
TG Modification:		
TG Reason:	The TG believes this is better addressed later when points are discussed. The TG also wants to have an actionable proposal from the submitter and others when this is brought back for consideration. TG wants to vote on specific numbers and includes a marked up Table 303.	

PC003	ID 8335	305.2 Whole-building rating criteria
Submitter:	Cindy Wasser, Home Innovation	
Comment:	305.2.1 Applicability. The provisions of 305.2 shall apply to remodeling of existing buildings. In addition to the foundation, not less than 50% of the structural systems of the existing building shall remain in place after any remodeling activities for the building to be eligible for compliance under 305.2. Eligible projects shall have their Certificate of Occupancy not less than <u>12 months</u> 3 years prior to NGBS registration.	
Reason:	Suggest striking reference to "remodeling" in Applicability section. The Existing Buildings compliance pathway does not require a building to undergo remodeling activity. Section 305 identifies that any existing green features within the building can contribute toward compliance. We assume that a building could potentially earn certification based fully on existing building conditions. The current language creates an eligibility gap for existing high-performing buildings occupied less than three years. As a result, a 1- or 2- year old building constructed to be NGBS compliant would have to wait until it was eligible to seek NGBS certification. Home Innovation believes this restriction is counter to the overall intent of the NGBS to serve as a national benchmark for green residential construction.	
TG Recommendation:	Accept, 8-3-4	
TG Modification:		
TG Reason:		

PC004	ID 8338	305.2 Whole-building rating criteria
Submitter:	Stephen Evanko, D3G	
Comment:	305.2.7 Prescriptive practices. The point thresholds for the environmental rating levels based on compliance with the Chapter 11 prescriptive practices shall be in accordance with Table 305.2.7. Any practice listed in Chapter 11, except for § 11.701 through § 11.706 and § 11.801 through § 11.803 shall be eligible for contributing points to the prescriptive threshold ratings. The attributes of the existing building that were in compliance with the prescriptive practices of Chapter 11 prior to the remodel and remain in compliance after the remodel shall be eligible for contributing points to the prescriptive threshold ratings	

	<p>Table 305.2.7</p> <p>Prescriptive Threshold Point Ratings</p> <p>Chapter 11 Prescriptive Thresholds</p> <p>Rating Level</p> <p>Bronze 88</p> <p>Silver 125</p> <p>Gold 181</p> <p>Emerald 225</p>
Reason:	Section was inappropriately deleted; We still need section 305.2.7 and the table 305.2.7 which conveys the required prescriptive practices from 11.500, 11.600, 11.900 and 11.1000
TG Recommendation:	Accept, 14-0-1
TG Modification:	
TG Reason:	

PC005	ID 8360	305.2 Whole-building rating criteria
Submitter:	Jamie Carr, Self	
Comment:	Eligible projects shall have their Certificate of Occupancy not less than 1 year prior to NGBS registration.	
Reason:	If Existing Building certification is only available to buildings that are not less than 3 years old, then there will be some buildings that simply will not be eligible for NGBS certification. Buildings less than 1 year old can qualify for new construction certification via the administrative appeals process, and buildings that are at least three years only can qualify for existing building certification, but buildings that are two years old can not be certified. This is not an optimal solution. I think the market would like NGBS to be available to buildings of any age, even if the requirements differ by building age. Current, NGBS practice allows buildings that are less than one year old to qualify for NGBS new construction certification via the administrative appeals process and buildings that are more than one year old to use the existing buildings path. I think it makes sense to keep that policy in place in the new standard.	
TG Recommendation:	Disapprove, 15-0-1	
TG Modification:		
TG Reason:	Based on prior decision and projects don't get Certificates of Occupancy.	

PC006	ID 8361	305.2 Whole-building rating criteria
Submitter:	Jamie Carr, Self	
Comment:	305.2.1.1. Additions. For a remodeled <u>an existing</u> building that . . .	
Reason:	This change is the make the "existing building" rather than remodel language consistent.	
TG Recommendation:	Accept, 14-0-1	
TG Modification:		
TG Reason:	Makes language consistent.	

PC007	ID 8362	305.2 Whole-building rating criteria
Submitter:	Jamie Carr, Self	
Comment:	Reinstate all of the language in Section 305.2.7.	
Reason:	I believe Section 305.2.7 needs to be reinstated for section 305 to be coherent. I believe it was likely removed in error.	
TG Recommendation:	Disapprove, 13-0-1	
TG Modification:		
TG Reason:	In favor of action on PC004, this is a duplicate.	

PC008	ID 8363	305.2 Whole-building rating criteria
Submitter:	Jamie Carr, Self	
Comment:	305.2.5.3 The last month in the 12-month energy data period for this energy score shall be within 6 month prior to the final submission to <u>registration with</u> the Adopting Entity. . . .	
Reason:	Because project certifications can sometime stretch over a long period of time, I recommend changing the date for measuring how recent utility data must be from the date of final submission to the date of registration.	
TG Recommendation:	Accept as Modified, 15-0-1	
TG Modification:	305.2.5.3 The last month in the 12-month energy data period for this energy score shall be within 6 month prior <u>to acceptance by registration with</u> the Adopting Entity. . . .	
TG Reason:	This change was proposed for greater flexibility.	

PC009	ID 8364	305.2 Whole-building rating criteria
Submitter:	Jamie Carr, Self	
Comment:	305.2.6.3 EPA Water Score The last month in the 12-month water data period for this water score shall be within prior 6 months prior to of the final submission <u>the registration to the</u> Adopting Entity.	
Reason:	Certifications can sometimes stretch over a long period of time, so I think it provides more certainty to tie the look back period for the water utility data to the date of registration as opposed to the date of final submission. Otherwise, project teams could go to submit only to find out at the last minute that they need to go through the costly, cumbersome, and time-consuming job of refreshing their utility data.	
TG Recommendation:	Accept as Modified, 15-0-1	
TG Modification:	305.2.6.3 EPA Water Score The <u>last month in the</u> 12-month water data period for this water score shall be within prior 6 months prior to acceptance by <u>the registration to the</u> Adopting Entity.	
TG Reason:	This change provides greater flexibility.	

PC010	ID 8365	305.2 Whole-building rating criteria
Submitter:	Jamie Carr, Self	
Comment:	305.3.4. Rating Level. A rating level of Bronze or higher shall be achieved in each of the following categories: Energy efficiency (§ 305.2.5), Water efficiency (§ 305.2.6), and Prescriptive Practices (§305.2.7), as applied across all the buildings in the property. The property rating level shall be the lowest rating level achieved in §305.2.5, §3.05.2.6, or § 305.2.7.	
Reason:	This change is intended to align the intend of the drafters (or at least one of the people who helped draft this section) with the language of the standard.	

TG Recommendation:	Disapprove, 13-0-1
TG Modification:	
TG Reason:	Based on action for PC0012.

PC011	ID 8366	305.2 Whole-building rating criteria
Submitter:	Jamie Carr, Self	
Comment:	306.2. The "w" in where should be capitalize at the beginning of the second sentence.	
Reason:	Typo correction.	
TG Recommendation:	Accept, 14-0-0	
TG Modification:		
TG Reason:		

PC012	ID 8337	305.3 Multifamily Property Level Green Certification
Submitter:	Stephen Evanko, D3G	
Comment:	<p>305.3.4 Rating level. A rating level of Bronze or higher shall be achieved in each of the following categories:</p> <p>Energy efficiency (§ 305.2.5), Water efficiency (§ 305.2.6), and Prescriptive practices (§ 305.2.7) , as applied across all the buildings in the property.</p> <p>Rating level based on the energy (§ 305.2.5) and water (§ 305.2.6) performance improvement shall be averaged across the full property. Practices related to 305.2.7 shall be awarded based lowest point level appropriate for any residential buildings within the property.</p> <p>The property rating level shall be the lowest rating level achieved in § 305.2.5, § 305.2.6, or § 305.2.7.</p>	
Reason:	clarification	
TG Recommendation:	Accept as Modified, 14-1-1	
TG Modification:	Practices related to 305.2.7 shall be awarded <u>to all buildings on the property based on the lowest point level achieved by any one building.</u> applicable to appropriate for any all residential buildings within the property.	
TG Reason:	The TG added the underline which did not come through in the TG PC. The proposed change clarifies the intent of the submission and uses proper language.	

Section 4: Site Design and Development

PC013	ID 8328	403.6 Landscape plan
Submitter:	Michelle Foster, NGBS Green	
Comment:	(6) Where Synthetic Turf Council (STC) or equivalent industry association qualified artificial turf is artificial or synthetic turf is installed in Dry climate zones per in accordance with table A200, instead of natural turf for common recreation or sport or play fields, Synthetic Turf Council (STC) or equivalent industry association qualified artificial turf is used	
Reason:	proposed change as written is confusing, revision below intended to make the practice clearer and easier to understand without changing intent or compliance	
TG Recommendation:	Accept, 5-0-0	
TG Modification:		
TG Reason:		

PC014	ID 8329	405.2 Street widths
Submitter:	Michelle Foster, NGBS Green	
Comment:	405.2 Street widths. (1) Street pavement widths are minimized <u>in accordance with Table 405.2 and do not exceed the local minimum requirements</u> per in accordance with local code and are in accordance with Table 405.2..... 6	
Reason:	Reversed order to make it clear that the width minimums are from the Table and that the street widths should not exceed local min requirements (as opposed to specifying code - parking requirements are likely in zoning) - Didn't change compliance with practice as written	
TG Recommendation:	Accept, 5-0-0	
TG Modification:		
TG Reason:		

Section 5: Lot Design, Preparation, and Development

PC015	ID 8341	502.2 Environmental, Social, and Governance (ESG) plan
Submitter:	Abhishek Lal, Meridian Consulting, LLC	
Comment:	502.2 Environmental, Social, and Governance (ESG) plan. An ESG impact plan has been written for the project.	
Reason:	Per the NGBS Section 1 Intent statement the intent of NGBS is to "establish criteria for rating the environmental impact of design and construction practices." ESG includes social and corporate governance which is outside the scope of NGBS. Either delete per the proposed change or define the scope of the referenced ESG plan in the context of environmental impact so that it is clearly within NGBS's environmental and green scope/intent. The current 101.3 intent language is below for reference. "101.3 Intent. The purpose of this Standard is to establish criteria for rating the environmental impact of design and construction practices to achieve conformance with specified performance levels for green residential buildings, renovation thereof, accessory structures, building sites, and subdivisions."	
TG Recommendation:	Accept as Modified, 4-0-1	
TG Modification:	<u>An ESG impact plan has been written for the project that utilizes NGBS compliance as the basis of the environmental section of the plan.</u>	
TG Reason:	The TG revised the language of the PC to be more specific. The TG proposed the modification to clarify that the NGBS focuses on the environmental aspects and not the S and G.	

PC016	ID 8390	502.2 Environmental, Social, and Governance (ESG) plan
Submitter:	Nate Steeber, self	
Comment:	Move 502.2 to be a new section in chapter 10.	
Reason:	Does an ESG plan belong in Chapter 5? This seems more like an item that belongs in chapter 10? 502.1 belongs because it is specific to the lot design, but 502.2 is not specific to lot.	
TG Recommendation:	Disapprove, 5-0-0	
TG Modification:		
TG Reason:	The TG rejected the proposal because Chapter 10 is late in the process and not part of the mission/planning part of the project.	

PC017	ID 8396	505.6 Multi-unit plug-in electric vehicle charging
Submitter:	Nate Steeber, self	
Comment:	<p>I believe the proposed changes below were recommended to TG5 from TG11</p> <p>Multi-unit plug-in electric vehicle charging. Plug-in electric vehicle <u>charging capability</u> charger is provided for 2% 5% or more of parking stalls.</p> <p>[An additional 2 points can be earned for each percentage point above 2% 5% for a maximum of 10 points]</p> <p>If the language remains as "charger" and not "charging capability" then the consensus committee should consider removing 707.8 in its entirety.</p>	
Reason:	If the changes to 505.6 are accepted, the will essentially be the same as 707.8 except for awarded points and	

	variations on language.
TG Recommendation:	Accept as Modified, 5-0-0
TG Modification:	Multi-unit plug-in electric vehicle charging <u>for multifamily and mixed-use buildings</u> .
TG Reason:	The TG wants to accept the change as proposed with the addition of the underlined words to clarify what is eligible for the points.

PC018	ID 8397	505.7 Multi-unit residential CNG vehicle fueling
Submitter:	Nate Steeber, self	
Comment:	Remove 505.7 entirely since it is awarded points in 707.9.	
Reason:	it's duplicated in chapter 7	
TG Recommendation:	Disapprove, 5-0-0	
TG Modification:		
TG Reason:	The TG believes that the practice in Ch 5 is for MF and the Chapter 7 practice is for SF so they wanted to keep both practices.	

PC019	ID 8330	505.11 Light pollution reduction
Submitter:	Michelle Foster, NGBS Green	
Comment:	505.11 Light pollution reduction. Lighting for all public exteriors <u>in the project of the building</u> complies with the vertical and horizontal illuminance and uniformity recommendations for the lighting zone as applicable to not less than one of the following:	
Reason:	Using "in the project" seems too broad - for example, what if the "project" includes commercial buildings that are ineligible for NGBS compliance, would those buildings need to comply with this lighting requirement for the building to earn points? Revision makes it clear that it should only be the exteriors of the building seeking to be compliant.	
TG Recommendation:	Accept, 5-0-0	
TG Modification:		
TG Reason:		

PC020	ID 8296	505.12 Wildfire resilience
Submitter:	Elina Thapa, Home Innovation Research Labs	
Comment:	<p>505.12 Wildfire resilience. Vegetation is managed in defensible space surrounding the structure. In the Immediate Zone (0 to 5 ft around the building) use stone, gravel, or equivalent material in landscaped areas. [An additional 3 points can be earned for areas designated as a wildland — urban interface or other wildfire-prone areas].</p> <p>-</p> <p><u>1) Defensible space is maintained:</u></p> <p><u>i) Within 0- 5 feet of the building: only hardscapes and succulents are used for landscaping (1 point)</u></p> <p><u>ii) Within 5- 30 feet of the building: thin trees and shrubbery for vegetation and no accessory buildings are present (1 point)</u></p> <p><u>iii) Non-combustible fencing is used (1 point)</u></p>	

	<u>2) Water sources (hydrants, ponds, swimming pools, wells etc.) are available and readily accessible to the fire department. (1 point)</u>
Reason:	Vegetation management is mostly upto occupant, not the builder. Made edits to the language to accomodate what a builder can do at the construction phase. Also added points for water sources available since this chapter relates to lot design.
TG Recommendation:	Accept as Modified, 5-0-0
TG Modification:	<p>Defensible space is maintained <u>part of the construction site plan.</u></p> <p>ii) Within 5- 30 feet of the building <u>thin trees and shrubbery, and no undergrowth</u> for vegetation and no accessory buildings are present (1 point <u>for areas in the UWI zones</u>)</p> <p>2) Water sources (hydrants, ponds, swimming pools, wells etc.) are available, readily accessible, <u>and equipped for fire-fighting use by</u> to the fire department. (1 point <u>for areas in the UWI zones</u>)</p>
TG Reason:	The TG accepts the proposal above except for the changes as noted to the first sentence, ii and #2. Clause i) stays as is from proposal. The TG made these changes to ensure that the practice provided actionable ways to fight potential firefighting and clarified the points should be in fire prone zones. Hydrants was removed bc they seemed to be prevalent in most instances and should not earn points automatically.

Section 6: Resource Efficiency

PC021	ID 8275	602.1 Moisture management - building envelope
Submitter:	Philip LaRocque, self	
Comment:	<p>Regarding proposed change P010, ID 7520</p> <p>(2) All window and door head and jamb flashing is either self-adhered flashing complying with AAMA 711 or liquid applied flashing complying with AAMA 714 and installed in accordance with fenestration or flashing manufacturer's installation instructions. 2 M (3) Pan flashing is installed at sills of all exterior windows and doors. 3 M (4) Seamless, preformed kickout flashing or prefabricated metal with soldered seams is provided at all roof- to wall intersections. The type and thickness of the material used for roof flashing including but not limited kickout and step flashing is commensurate with the anticipated service life of the roofing material. 3 M</p> <p>Reason from proposed change: Window and door head, jamb, and sill flashing and kickout flashing are critical elements to preventing moisture damage in wood framed structures. These should all be required.</p>	
Reason:	Mandating one of two specific flashing types for window and door head and jambs is unnecessary, limits choices and is inappropriate. Any flashing product/system should ensure that this flashing is properly installed with the NGBS Verifier inspecting these flashing items.	
TG Recommendation:	Accept as Modified, 9-0-0	
TG Modification:	<p>(2) All window and door head and jamb flashing is either self-adhered flashing complying with AAMA 711 or liquid applied flashing complying with AAMA 714 and installed in accordance with fenestration or flashing manufacturer's installation instructions. <u>2 M</u></p> <p>(3) Pan flashing is installed at sills of all exterior windows and doors. <u>3 M</u></p> <p>(4) Seamless, preformed kickout flashing or prefabricated metal with soldered seams is provided at all roof- to wall intersections. The type and thickness of the material used for roof flashing including but not limited kickout and step flashing is commensurate with the anticipated service life of the roofing material. <u>3 M</u></p>	
TG Reason:	Put in strike outs and underlines for modifications.	

PC022	ID 8276	602.1 Moisture management - building envelope
Submitter:	Philip LaRocque, self	
Comment:	<p>(2) All window and door head and jamb flashing is either self-adhered flashing complying with AAMA 711 or liquid applied flashing complying with AAMA 714 and installed in accordance with fenestration or flashing manufacturer's installation instructions. Mandatory2</p>	
Reason:	Should not specify particular materials/product/process in order to install flashing for windows and doors headers and jams. Should only require that any flashing material/product/process should follow manufacturers guidelines. Should not be mandated but allow practice points to encourage this flashing.	
TG Recommendation:	Accept as Modified, 9-0-0	
TG Modification:	<p>602.1.9 <u>(1)(i) All window and door head and jamb flashing</u></p> <p><u>(j) Roof kickout and step flashing</u></p>	
TG Reason:	Agreed that window door head and jamb flashing should be mandatory to manufacturing instructions relocated to no# 1. Added roof kickout and step flashing in alignment with IRC.	

PC023	ID 8313	602.1 Moisture management - building envelope
Submitter:	Theresa A Weston, ABAA & RAINA	
Comment:	<p>602.1.13 Roof overhangs. Roof overhangs, in accordance with Table 602.1.13, are provided over not less than 90% of exterior wall area to protect the building envelope..... 4</p> <p>Exception: Exclude mechanical, electrical, and plumbing materials from total material cost. Exception: Buildings with concrete or masonry exterior walls.</p>	
Reason:	The exception as written appears to be incorrect in the this section as it's content does not relate to the content of the section. A new exception is proposed which addresses an exemption for concrete and masonry walls which have higher resistance to water damage. This proposal is related to proposals to sections 11.602.1.13 & 1202.13.	
TG Recommendation:	Accept as Modified, 12-0-0	
TG Modification:	<p>602.1.13 Roof overhangs. Roof overhangs, in accordance with Table 602.1.13, are provided over not less than 90% of exterior wall area to protect the building envelope..... 4</p> <p>Exception: Exclude mechanical, electrical, and plumbing materials from total material cost. Exception: Buildings with concrete or masonry exterior walls.</p>	
TG Reason:	An exception is not needed for an optional points based measure.	

PC024	ID 8306	602.2 Roof surfaces
Submitter:	Jonathan Humble, Cool Roof Rating Council	
Comment:	<p>“602.2 Roof surfaces. Not less than 90% of roof surfaces, not used for roof penetrations and associated equipment, on-site renewable energy systems such as photovoltaics or solar thermal energy collectors, or rooftop decks, amenities, and walkways, are constructed of one or more of the following:</p> <p>(1) Minimum initial SRI of not less than 78 for low-sloped roof (a slope less than 2:12) and an minimum initial SRI of not less than 29 for a steep-sloped roof (a slope equal to or greater than 2:12). The SRI is calculated in accordance with ASTM E1980. <u>Roof products are rated and labeled in accordance with the CRRC-1 Program.</u></p> <p>(2) a vegetated roof system.”</p> <p>(See also related Section 11.602.2 code change proposal)</p>	
Reason:	The reference to solar reflectance should be consistent throughout the future edition of the National Green Building Standard. Sections 602.2 and 11.602.2 below support this focus through each of their subpart #1 that requires roof products to be rated and labeled in accordance with the CRRC-1 Program. (See also related Section 11.602.2 code change)	
TG Recommendation:	Disapprove, 12-0-0	
TG Modification:		
TG Reason:	This language is already in the standard.	

PC025	ID 8380	602.2 Roof surfaces
Submitter:	Karla Butterfield, Steven Winter Associates, Inc.	
Comment:	602.1.13 Roof overhangs. Roof overhangs, in accordance with Table 602.1.1213, are provided over a minimum of not less than 90% of exterior walls wall area to protect the building envelope..... 4 Exception: Exclude mechanical, electrical, and plumbing materials from total material cost. Unconditioned or low energy buildings in tropical zone.	
Reason:	The exception seems to be a copy/paste error. I believe it's supposed to be the same as 11.602.1.13, Exception: Unconditioned or low energy buildings in tropical zone.	
TG Recommendation:	Disapprove, 12-0-0	
TG Modification:		
TG Reason:	Based on action on PC023, an exception is not needed for an optional points-based measure.	

PC026	ID 8346	604 RECYCLED-CONTENT BUILDING MATERIALS
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	It is unclear both in this section and in the glossary if the NGBS accepts chem-cycled materials and what types of recycled content are allowable. Given the increase in popularity of chem-cycling for polymeric materials and using techniques such as mass-balances for recycled content estimates, this topic should be clarified. Please further clarify different types of recycled content and what is allowable in the standard. Include definitions for mass-balance, chem-cycling, etc.	
Reason:	Ambiguity around what is allowable in recycled content and how such claims should be substantiated.	
TG Recommendation:	Disapprove, 9-0-0	
TG Modification:		
TG Reason:	Previous discussions by TG did not differentiate between different types of recycled content. In addition, chemcycling is a relatively new topic and not yet well defined by regulatory bodies.	

PC027	ID 8414	604.1 Recycled content
Submitter:	Nate Steeber, self	
Comment:	revise as approved by the CC	
Reason:	The language shown in the PPR appears to say that the existing language should remain as option 1, but that language does not appear to show in the redlined version.	
TG Recommendation:	Disapprove,	
TG Modification:		
TG Reason:	Submitter deemed this item to be unnecessary in the TG meeting.	

PC028	ID 8285	604.2 Concrete materials
Submitter:	Cindy Wasser, Home Innovation	
Comment:	604.2 Concrete Materials (1) Use supplementary cementitious materials instead of Portland cement in concrete with not less than the following: (a) 20% supplementary cementitious material 1	

	(b) 30% supplementary cementitious material 3 (c) 40% supplementary cementitious material 5 (2) Include recycled content aggregate for not less than 10% of aggregate material..... 1 - [Points not awarded if points are taken under 604.1.]
Reason:	There's no reason to make 604.1 and 604.2 mutually-exclusive, as they address separate product categories.
TG Recommendation:	Accept as Modified, 7-0-0
TG Modification:	604.2 Concrete Materials (1) Use supplementary cementitious materials instead of Portland cement in concrete with not less than the following: (a) 20% supplementary cementitious material 1 (b) 30% supplementary cementitious material 3 (c) 40% supplementary cementitious material 5 (2) Include recycled content aggregate for not less than 10% of aggregate material..... 1 [Points not awarded if points are taken under 604.1.] <u>[Points not awarded if points are taken for cementitious material under 604.1.]</u>
TG Reason:	Cementitious material could be counted under 604.1 or 604.2.

PC029	ID 8301	605.2 Construction waste management plan
Submitter:	Elysia Shanks, self	
Comment:	(5 3) For buildings following the new construction path that also have a renovation component, the waste management plan includes the recycling of 95% of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, and fire and security control boards) by an E-Waste recycling facility..... 3	
Reason:	Numbering is off	
TG Recommendation:	Accept as Modified, 13-0-0	
TG Modification:	<u>(5 3)</u> For buildings following the new construction path that also have a renovation component, the waste management plan includes the recycling of 95% of electronic waste components (such as printed circuit boards from computers, building automation systems, HVAC, and fire and security control boards) by an E-Waste recycling facility..... 3	
TG Reason:	To reflect underlined format.	

PC030	ID 8286	606.2 Wood-based products
Submitter:	Cindy Wasser, Home Innovation	
Comment:	606.2 Wood-based products. Wood or wood-based products are certified to the requirements of one of the following:	

	<p>(a) American Forest Foundation’s American Tree Farm System® (ATFS).</p> <p>(b) Canadian Standards Association’s Sustainable Forest Management System Standards (CSA Z809).</p> <p>(c) Forest Stewardship Council (FSC).</p> <p>(d) Program for Endorsement of Forest Certification Systems (PEFC).</p> <p>(e) Sustainable Forestry Initiative? Program (SFI).</p> <p>(f) National Wood Flooring Association’s Responsible Procurement Program (RPP).</p> <p>(g) other product programs mutually recognized by PEFC.</p> <p>(h) A manufacturer’s fiber procurement system that has been audited by an approved agency as compliant with the provisions of ASTM D7612 as a responsible or certified source. Government or tribal forestlands whose water protection programs have been evaluated by an approved agency as compliant with the responsible source designation of ASTM D7612 are exempt from auditing in the manufacturers’ fiber procurement system.</p> <p>(1) All tropical wood products used for major and minor components are responsibly sourced or certified. Mandatory</p> <p>(12) A minimum of at least 10% of permanently installed wood material, by cost, or area must be certified to one of the standards listed above below. Alternatively, 1 major component or 2 minor components certified to a standard listed below comply 2</p> <p>(23) A minimum of at least 30% of permanently installed wood material, by cost, or area must be certified to one of the standards listed above below. Alternatively, 2 major components or 3 minor components certified to a standard listed below comply 3</p> <p>(4) A minimum of at least 50% of permanently installed wood material, by cost, or area must be certified to one of the standards listed above below. Alternatively, 3 major components or 4 minor components certified to a standard listed below comply. 4</p>
Reason:	In (2), (3), and (4), the text says "a standard listed below," but the standards are actually included ABOVE those sections. Implement a change for easier navigation.
TG Recommendation:	Accept as Modified, 12-0-0
TG Modification:	<p>606.2 Wood-based products. Wood or wood-based products are certified to the requirements of one of the following:</p> <p>(a) American Forest Foundation’s American Tree Farm System® (ATFS).</p> <p>(b) Canadian Standards Association’s Sustainable Forest Management System Standards (CSA Z809).</p> <p>(c) Forest Stewardship Council (FSC).</p> <p>(d) Program for Endorsement of Forest Certification Systems (PEFC).</p> <p>(e) Sustainable Forestry Initiative? Program (SFI).</p> <p>(f) National Wood Flooring Association’s Responsible Procurement Program (RPP).</p> <p>(g) other product programs mutually recognized by PEFC.</p> <p>(h) A manufacturer’s fiber procurement system that has been audited by an approved agency as compliant with the provisions of ASTM D7612 as a responsible or certified source. Government or tribal forestlands whose water protection programs have been evaluated by an approved agency as compliant with the</p>

	<p>responsible source designation of ASTM D7612 are exempt from auditing in the manufacturers' fiber procurement system.</p> <p>(1) All tropical wood products used for major and minor components are responsibly sourced or certified. Mandatory</p> <p>(2) A minimum of at least 10% of permanently installed wood material, by cost, or area must be certified to one of the standards listed above below. Alternatively, 1 major component or 2 minor components certified to a standard listed below comply 2</p> <p>(3) A minimum of at least 30% of permanently installed wood material, by cost, or area must be certified to one of the standards listed above below. Alternatively, 2 major components or 3 minor components certified to a standard listed below comply 3</p> <p>(4) A minimum of at least 50% of permanently installed wood material, by cost, or area must be certified to one of the standards listed above below. Alternatively, 3 major components or 4 minor components certified to a standard listed below comply. 4</p>
TG Reason:	Delete location to create more flexibility for publisher.

PC031	ID 8340	606.2 Wood-based products
Submitter:	Abhishek Lal, Meridian Consulting, LLC	
Comment:	<p>(1) All tropical wood products used for major and minor components are responsibly sourced or certified <u>to one of the above standards</u>..... Mandatory</p> <p>(2) Not less than 10% of permanently installed wood material, by cost, or area shall be certified to one of the standards listed above below. Alternatively, 1 major component or 2 minor components certified to a standard listed above below comply. 2</p> <p>(3) Not less than 30% of permanently installed wood material, by cost, or area shall be certified to one of the standards listed above below. Alternatively, 2 major components or 3 minor components certified to a standard listed below comply. 3</p> <p>(4) Not less than 50% of permanently installed wood material, by cost, or area shall be certified to one of the standards listed above below. Alternatively, 3 major components or 4 minor components certified to a standard listed above below comply. 4</p>	
Reason:	The term "responsibly sourced" is deleted since it isn't defined. Certified products are defined. Reference to the applicable certifications "above" is included since the certification standards are sequentially above rather than below. There is no change to the rest of the existing 606.2 text.	
TG Recommendation:	TG 3 - Accept as Modified (10-0-0); TG 8 - Accept (4-0-0)	
TG Modification:	<p>TG 3 Modification:</p> <p>(1) tropical wood products used for major and minor components are <u>responsibly sourced in accordance with ASTM D7612 or certified to one of the above-listed standards</u>..... Mandatory</p>	
TG Reason:	Defined 'responsibly sourced' for clarity.	

PC032	ID 8347	606.2 Wood-based products
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	Given the significant reliance on existing government programs and ecolabels, the NGBS should align its desired threshold of biobased content with the USDA Biopreferred product categories vs. setting an arbitrary level of 50% across all materials. For products containing certain solvents, a 50% threshold would be trivial, but for large volume polymeric materials, this level would be unobtainable given existing supply chains. The USDA Biopreferred program is best positioned to determine what is technically appropriate for specific material types and has already done this work for many product categories. Setting a realistic threshold for biobased content is critical to ensure manufacturers are actually encouraged to transition to biomaterials.	
Reason:	Using one threshold for biobased content is problematic given variety of potential building materials.	
TG Recommendation:	Accept as Modified, 10-0-0	
TG Modification:	606.1 (h) biobased materials that are USDA Biopreferred qualified. (h) (i) other biobased materials with not less than 50% biobased content (by weight or volume).	
TG Reason:	Translate the concept into legislative format.	

PC033	ID 8348	606.2 Wood-based products
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	Similar to the previous comment around chem-cycling, it would also be helpful if NGBS clarified if mass-balance biobased content is acceptable or if only segregated biobased feedstocks are eligible for consideration. This distinction is critical as mass-balance measurements of biobased content are generally easier and cheaper for manufacturers. Please clarify what is allowable for biobased materials in this section and the glossary.	
Reason:	Ambiguity around what is allowable for biobased content claims.	
TG Recommendation:	Accept as Modified, 9-0-0	
TG Modification:	Section 2 Definitions <u>Mass Balance Approach – A set of rules that can be used to determine the amount of recycled or biobased content in a product. A mass balance approach is generally used during chemical recycling.</u> 606.1 (h) other biobased materials with of not less than 50% biobased content (by weight or volume). <u>Biobased content originating from a Mass Balance Approach shall have external validation.</u>	
TG Reason:	USDA has rules for mass balance approach. Add to definitions: Mass Balance Approach – A set of rules that can be used to determine the amount of recycled or biobased content in a product.	

PC034	ID 8349	608 RESOURCE-EFFICIENT MATERIALS
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	This section would be enhanced by expanding beyond the three product categories listed. For example, cementitious cladding weighs substantially more and (as a result) has several times the Global Warming Potential of other cladding materials per square meter. A broader offering of lightweighting opportunities could greatly lower the embodied carbon of a building and potentially increase credit adoption.	

	Please consider adding a pathway for other building materials that comprise a significant portion of a building.
Reason:	It is unclear why only a handful of building material categories are included in this section which might limit adoption and/or impact and benefit.
TG Recommendation:	Disapprove, 9-0-0
TG Modification:	
TG Reason:	There is no specific measure of how efficiencies for proposed categories proposed are met.

PC035	ID 8350	610 LIFE CYCLE ASSESSMENT
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	<p>Given the significant uncertainties of Whole Building LCA tools (even beyond traditional product-specific LCA uncertainties) and their over-simplified/generalized Life Cycle Inventories, any assessments should be required to obtain external validation (potentially aligning any external review with ISO 14071 or another appropriate standard) to ensure that any findings are meaningful and actually representative of an optimized building. This is especially true given that building-level LCA tools are frequently being used by non-LCA practitioners and take a general approach to LCA modeling, assumptions, etc. given the complexity of a building.</p> <p>Please consider requiring some level of external validation and referencing specific LCA standards to ensure better quality-control.</p>	
Reason:	As presently written, this section does not take into account the significant uncertainty and generalness of WBLCA.	
TG Recommendation:	Accept as Modified, 9-0-0	
TG Modification:	610.1.1 Whole-building life cycle assessment. A whole-building LCA is performed in conformance with ASTM E2921, ISO 21931, EN 15978, or equivalent, while using ISO 14044 compliant life cycle assessment..... 15 max	
TG Reason:	Add additional relevant standards and legislative language.	

PC036	ID 8351	610.1 Life cycle assessment
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	<p>As written, this guidance does not conform with ISO guidelines on comparability as written in ISO 14025 and ISO 21930 (both of which are commonly referenced for building material LCAs/EPDs). This is critical as credible and accurate LCA comparisons must be done using a functional unit vs. declared unit, and ensure that the same LCA tools, methods, PCRs, assumptions, etc. were used.</p> <p>I would recommend that the authors align this section with the Optimized EPD option in LEED v4.1 under the Materials & Resources category. At a minimum, comparability should be consistent to what is outlined in ISO 14025 and 21930 as those are the relevant standards for LCA/EPDs.</p>	
Reason:	As currently written, this section does not conform with ISO standards and best practices around LCA. In addition, it encourages the misuse the results of LCA/EPDs and will increase confusion around a very technical subject.	
TG Recommendation:	Accept as Modified, 9-0-0	
TG Modification:	610.1.2 Life cycle assessment for a permanently installed product or assembly. An environmentally	

	<p>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, ISO 14025, and ISO 21930 or other <u>equivalent internationally recognized standards that compare the environmental impact of products or assemblies using an LCA methodology</u> 10 max</p> <p>610.1.2.1 Product LCA.</p> <p>A product with improved environmental impact measures compared to another product(s) intended for the same use is selected. <u>All comparisons shall ensure the differences between products are significant and not due to the use of different assumptions, LCIs, LCA tools, LCIA methods, and/or database version(s).</u> The environmental impact measures used in the assessment are selected from the following: per Table 610.1.2.1 [5 max or 10 max if externally validated 10 max]</p> <p>(Points are awarded for each product/system comparison where the selected product/system improved upon the environmental impact measures by an average of 15% <u>optimized LCA results improved upon the global warming potential by at least 10% with the average of the other indicators not being worse than the baseline product/system.</u></p>
TG Reason:	External validation would garner the full number of points vs non-externally validated (5 pts). Keep ozone depletion as an impact category. Remove TRACI 2.1 method.

PC037	ID 8352	610.1 Life cycle assessment
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	<p>Similar to the previous comment, this section does not conform with ISO comparability requirements and, as written, would not ensure that a lower impact material was actually selected. At a minimum, a specific set of LCIA methods (presumably TRACI 2.1) should be referenced to ensure that the impact categorization and units are the same between declarations. Also, uncertainty and relevance of the various impact categories was not considered. There are wide variations in uncertainty between each of the different impact categories, so they cannot be credibly held to the same significance threshold. In addition, some of the listed impact categories might have impacts per functional/declared unit on the order of 1.0E-8 and be negligible vs. ones that could potentially lead to significant damage.</p> <p>Looking to LEED again, the focus of EPD optimization should be on Global Warming Potential (which should have a required reduction given its relatively low uncertainty and importance). In addition, the 15% reduction threshold as an average is arbitrary, may not always be statistically significant, and will be too easy/difficult for certain industries.</p> <p>At a minimum, this section should be revised to clarify the differences between impact categories and specify an LCA method to ensure some level of consistency.</p>	
Reason:	Current language is ambiguous and does not take into account the different certainties and relevance of different LCA Impact Categories.	
TG Recommendation:	Disapprove, 9-0-0	
TG Modification:		
TG Reason:	In favor of action on PC036.	

PC038	ID 8353	610.1 Life cycle assessment
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	It might be worth considering focusing on optimized EPD or LCA results specific to manufacturers who has improved its product and then created a second EPD or references a credible industry average EPD in which	

	they (and a significant portion of the industry) participated. Given increasing lawsuits from regulators on LCA claims, it is critical that the NGBS not generalize LCA/EPD results and risk misleading and further confusing consumers.
Reason:	LCA/EPD results between manufacturers may inherently be problematic to compare given different LCA tools, methods, etc.
TG Recommendation:	Disapprove, 9-0-0
TG Modification:	
TG Reason:	In favor of action on PC036.

PC039	ID 8354	611 PRODUCT DECLARATIONS
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	<p>In the LCA community, LCAs are considered to be ‘validated’ vs. ‘certified’. Please revise as certification represents a different process.</p> <p>To be consistent with other building standard, it might be helpful to frame eligible products around ‘permanently installed products’ and/or make it clear that a builder cannot get credit for EPDs for screws, hinges, etc. vs a finished product ready for installation. This is what is done in other green building programs such as LEED, Green Globes, etc.</p>	
Reason:	Some of the terms used in the present language are not consistent with what is accepted by the LCA community.	
TG Recommendation:	Disapprove, 6-2-1	
TG Modification:		
TG Reason:	Additional EPDs are not necessary to meet the intent.	

PC040	ID 8355	611 PRODUCT DECLARATIONS
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	<p>Given the tens of thousands of EPDs already available for building materials, a threshold of 10 products is way too low relative to the effort of similarly scored sections in this standard. I would ask the authors to consider increasing the number of EPDs needed to receive points. Although not official, LEED v5 is going to make EPDs a prerequisite, so clearly USGBC feels that the market is mature enough to move away from the modest number of EPDs originally cited in LEED v4.</p>	
Reason:	The threshold for credit is way too low given current levels of EPDs and the variety of regulations that have recently been passed or are about to become law.	
TG Recommendation:	Disapprove, 8-0-0	
TG Modification:		
TG Reason:	In favor of action on PC039.	

PC041	ID 8297	613.1 Vulnerability assessment
Submitter:	Elina Thapa, Home Innovation Research Labs	
Comment:	<p>613.1 Vulnerability assessment. An assessment of the property’s risks to climate, seismic, and natural disasters is performed <u>and signed by a licensed P.E. or qualified professional. Mandatory 4 points if any practices in 613.2 are claimed.</u></p>	

Reason:	To clarify who does the vulnerability assessment because there is no checklist available for anyone to do them. Also made it mandatory if claiming points for resiliency because the points for resilience should only be claimed if the region is vulnerable to that disaster otherwise it could lead to overdesign which is not resource efficient.
TG Recommendation:	Accept as Modified, 12-0-0
TG Modification:	613.1 Vulnerability assessment. An assessment of the property’s risks to climate, seismic, and natural disasters is performed and signed by a licensed P.E. or qualified by an approved professional. Mandatory 4 points if any practices in 613.2 are claimed. 4 points <u>613.2 HUD Guides (Designing for Natural Hazards)</u> <u>Points awarded only for buildings where 613.1 is also awarded.</u>
TG Reason:	Clarified the language while meeting the intent of the proposal.

PC042	ID 8299	613.2 HUD Guides (Designing for Natural Hazards)
Submitter:	Elina Thapa, Home Innovation Research Labs	
Comment:	<p>613.2.1 Wind Resilience. Practices listed on the following one-pager titles of the HUD Guides (Volume 1: Wind) are met. [0.5 point awarded per practice, 2 points max per one-pager] 8 max</p> <ul style="list-style-type: none"> (a) Openings – Shutters (b) Roof Deck & Underlayment (c) High-Wind Roof Covering (d) Continuous Load Path (ed) Garage Doors <p>613.2.2 Water Resilience. Practices listed on the following one-pager titles of the HUD Guides (Volume 2: Water) are met. [0.5 point per practice, 2 points max per one-pager] 8 max</p> <ul style="list-style-type: none"> (a) Roof Underlayment & Vents (b) Wall Assembly (c) Utilities and Mechanical Equipment (d) Freeboard Elevation <p>613.2.3 Fire Resilience. Practices listed on the following one-pager titles of the HUD Guides (Volume 3: Fire) are met. [0.5 point per practice, 2 points max per one-pager] 8 max</p> <ul style="list-style-type: none"> (a) Defensible Space (b) Roof Assembly (c) Foundation Components (c) Exterior wall (d) <u>Window and Skylights</u> (e) <u>(e) Ducts, Vents, & Openings</u> 	

	<p>613.2.4 Earth Resilience. Practices listed on the following one-pager titles of the HUD Guides (Volume 4: Earth) are met. [0.5 point per practice, 2 points max per one-pager] 8 max</p> <p>(a) Continuous Load Path–(a) Wall to Foundation Connection</p> <p>(b) Post and Beam Connections–(b) Floor to Wall Connection</p> <p>(c) Drywall (to Prevent Cracks)–(c) Roof to Wall Connection</p> <p>(d) Garage Openings–(d) Exterior Wall Construction</p> <p>(e) Exterior Wall Construction–(e) Garage Openings</p> <p>(f) Roof to Wall Connection</p>
Reason:	<p>* for wind and earth resilience, achieving a continuous load path requires selection of multiple practices but this practice awards points for selection of two practices only. * for fire resilience, removed foundation components and added window and skylight because the window and skylights are applicable to all multifamily and single family buildings but foundation components practices in HUD guide are targeted for unenclosed/open foundation that are common in single family homes with crawlspaces but overall the percentage is very less for NGBS certification. * for earth resilience, removed drywall and added chapters that seemed to add more value to resource efficiency. Even though the frequency of drywall damage is more during an earthquake, it would be more efficient to make the foundation to wall connection stronger because damage to drywall can be fixed with a simple patchwork but foundation damage can be costly and that could potentially damage other components of the house. Also removed post and beam connection because points are limited and focus should probably be on making the connection of major components stronger. Removed continuous load path- reason in first bullet.</p>
TG Recommendation:	Accept as Modified, 12-0-0
TG Modification:	<p>613.2.1 Wind Resilience. Practices listed on the following one-pager titles of the HUD Guides (Volume 1: Wind) are met. [0.5 point awarded per practice, 2 points max per one-pager] 8 max</p> <p>(a) Openings — Shutters</p> <p>(b) Roof Deck & Underlayment</p> <p>(c) High Wind Roof Covering</p> <p>(d) Continuous Load Path</p> <p>(e) Garage Doors</p> <p>613.2.2 Water Resilience. Practices listed on the following one-pager titles of the HUD Guides (Volume 2: Water) are met. [0.5 point per practice, 2 points max per one-pager] 8 max</p> <p>(a) Roof Underlayment & Vents</p> <p>(b) Wall Assembly</p> <p>(c) Utilities and Mechanical Equipment</p> <p>(d) Freeboard Elevation</p> <p>613.2.3 Fire Resilience. Practices listed on the following one-pager titles of the HUD Guides (Volume 3: Fire) are met. [0.5 point per practice, 2 points max per one-pager] 8 max</p> <p>(a) Defensible Space</p> <p>(b) Roof Assembly</p>

	<p>(c) Foundation Components</p> <p>(c) Exterior wall</p> <p>(d) Window and Skylights</p> <p>(d e) Ducts, Vents, & Openings</p> <p>613.2.4 Earth Resilience. Practices listed on the following one-pager titles of the HUD Guides (Volume 4: Earth) are met. [0.5 point per practice, 2 points max per one-pager] 8 max</p> <p>(a) Continuous Load Path (a) Wall to Foundation Connection</p> <p>(b) Post and Beam Connections (b) Floor to Wall Connection</p> <p>(c) Drywall (to Prevent Cracks) (c) Roof to Wall Connection</p> <p>(d) Garage Openings (d) Exterior Wall Construction</p> <p>(e) Exterior Wall Construction (e) Garage Openings</p> <p>(f) Roof to Wall Connection</p>
TG Reason:	Allowing all of the practices to be used simplifies the standard.

PC043	ID 8339	613.3 Resilient energy systems & passive survivability
Submitter:	Abhishek Lal, Meridian Consulting, LLC	
Comment:	<p>(1) On-site PV systems and/or efficient generators are designed and installed to provide emergency power for residents to safely shelter during power outages</p> <p>(2) Water storage and purifications systems are designed and installed to provide potable water during power outage.</p>	
Reason:	Efficient generators are not defined. Provide efficiency criteria or delete generators.	
TG Recommendation:	Accept as Modified, 9-0-0	
TG Modification:	<p>(1) On-site <u>renewable energy systems with battery energy storage</u> PV systems and/or efficient generators are designed and installed to provide emergency power for residents to safely shelter during power outages...3</p> <p>(2) <u>CARB compliant whole-building generators</u> are designed and installed to provide emergency power for residents to safely shelter during power outages ...1</p> <p>(23) Water storage and purifications systems are designed and installed to provide potable water during power outage....4</p> <p>(3) <i>*Note: points cannot be claimed for both 1 & wood products used for major and minor components are <u>responsibly sourced in accordance with ASTM D7612 or certified to one of the above-listed standards</u>..... Mandatory</i></p>	
TG Reason:	From a sustainability standpoint it helps maintain building materials from damage. Awarded more points for renewable systems that do not generate emissions.	

PC044	ID 8300	613.4 Floodproofing
Submitter:	Elina Thapa, Home Innovation Research Labs	
Comment:	613.4 Floodproofing. Lower floors and all mechanical areas are floodproofed. 2	
Reason:	Already covered in HUD guide that can claim points for practice 613.2	
TG Recommendation:	Accept, 10-0-0	
TG Modification:		
TG Reason:		

PC045	ID 8367	SECTION 6 - Other
Submitter:	Jamie Carr, Self	
Comment:	Figure 6 (3) Reprinted with permission from the 2024 <u>2021</u> International Residential Code.	
Reason:	The energy chapter is keyed to the 2021 IECC, but in Figure 6(3) Termite Infestation Probably Map, there is a reference to the 2024 IRC. Might it make more sense to keep things consistent by referencing the 2021 family of codes.	
TG Recommendation:	Accept, 12-0-0	
TG Modification:		
TG Reason:		

Section 7: Energy Efficiency

PC046	ID 8287	701.1 Mandatory requirements
Submitter:	Cindy Wasser, Home Innovation	
Comment:	<p>701.1.1 Minimum Performance Path requirements. A building complying with § 702 shall include a minimum of two practices from § 706 705, or a minimum of one practice from § 706 705 and a minimum of one practice from § 707 706.</p> <p>701.1.2 Minimum Prescriptive Path requirements. A building complying with § 703 shall obtain a minimum of 30 points from § 703 and shall include a minimum of two practices from § 706 705, or a minimum of one practice from § 706 705 and a minimum of one practice from § 707 706.</p> <p>701.1.3 ERI Target Path requirements. A building complying with § 704 shall obtain a minimum of 30 points from § 704 and shall include a minimum of two practices from § 706 705, or a minimum of one practice from § 706 705 and a minimum of one practice from § 707 706.</p>	
Reason:	Sections 705 and 706 were renumbered when the new Tropical Climate Zone Path was added. These references were not updated following that change.	
TG Recommendation:	Accept, 10-0-1	
TG Modification:		
TG Reason:	Proper editorial corrections.	

PC047	ID 8277	701.1.2 Minimum Prescriptive Path requirements
Submitter:	Philip LaRocque, self	
Comment:	701.1.2 Minimum Prescriptive Path requirements. A building complying with § 703 shall obtain a minimum of not less than 30 points from § 703 and shall include a minimum of two not less than practices from § 705, or a minimum of not less than one practice from § 705 and a minimum of not less than one practices from § 706.	
Reason:	This section change makes no sense. What if the project is not in a Tropical Zone? How do you get practice points from this new section 705?	
TG Recommendation:	Disapprove, 9-0-2	
TG Modification:		
TG Reason:	In lieu of action on PC046, which corrects both section numbers and retains references to both Additional and Innovative Practices sections.	

PC048	ID 8368	701.1.6 Alternative Silver or Gold level compliance for Tropical Zones (705)
Submitter:	Jamie Carr, Self	
Comment:	At the end of the first sentence, I believe the "c" in "Chapter" should be capitalized for stylistic consistence with how Chapter appears elsewhere.	
Reason:	Typo	
TG Recommendation:	Accept, 12-0-1	
TG Modification:		

TG Reason:	Editorial fix.
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PC049	ID 8370	701.1.7 Alternative Emerald level compliance
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Submitter:	Jamie Carr, Self
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Comment:	701.1.7 Alternate Emerald level compliance. As an alternative, any building certified to PHIUS CORE <u>or ZERO</u> (v.3.1 - 2021 <u>or later</u>) achieves the Emerald level for Chapter 7.
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Reason:	Adds clarity about what happens is PHIUS standard updates.
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TG Recommendation:	Accept as Modified, 8-0-2
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TG Modification:	<p><i>Edit as follows:</i></p> <p>701.1.7 Alternate Emerald level compliance. As an alternative, any building certified to <u>2021</u> PHIUS CORE <u>or 2021 PHIUS ZERO</u> (v.3.1—2021 or later) achieves the Emerald level for Chapter 7.</p> <p><i>Add the following reference to Ch 14:</i></p> <table border="1" style="margin-left: 20px;"> <tr> <td colspan="4"><u>Passive House Institute U.S.</u></td> </tr> <tr> <td><u>PHIUS CORE</u></td> <td><u>2021</u></td> <td><u>Phius CORE</u></td> <td><u>701.1.7</u></td> </tr> <tr> <td><u>PHIUS ZERO</u></td> <td><u>2021</u></td> <td><u>Phius ZERO</u></td> <td><u>701.1.7</u></td> </tr> </table>	<u>Passive House Institute U.S.</u>				<u>PHIUS CORE</u>	<u>2021</u>	<u>Phius CORE</u>	<u>701.1.7</u>	<u>PHIUS ZERO</u>	<u>2021</u>	<u>Phius ZERO</u>	<u>701.1.7</u>
<u>Passive House Institute U.S.</u>													
<u>PHIUS CORE</u>	<u>2021</u>	<u>Phius CORE</u>	<u>701.1.7</u>										
<u>PHIUS ZERO</u>	<u>2021</u>	<u>Phius ZERO</u>	<u>701.1.7</u>										

TG Reason:	Stating year clarifies the version and allows acceptance of minor revisions (e.g., “3.2”).
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PC050	ID 8316	701.4 Mandatory practices
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Submitter:	Theresa A Weston, ABAA & RAINA
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Comment:	<p>(1) Testing. Conduct airtightness testing in accordance with procedures in ANSI/RESNET/ICC Std. 380, ASTM E779, ASTM E1827, or ASTM E3158 demonstrating compliance with the following leakage rates, as applicable to the type of home or dwelling unit.</p> <p>(a) For detached homes = 1,500 ft2 measured airtightness shall be no greater than 5-4 ACH50.</p> <p>(b) For all other homes or dwelling units, the weighted average of the unguarded compartmentalization testing shall be no greater than 0.30-0.27 CFM50 per square foot of dwelling unit enclosure area.</p>
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Reason:	Revise the maximum air leakage rates to be consistent with the 2024 IECC. Otherwise, the NGBS will be less stringent than the most recent IECC edition. I will note that although the 2024 IECC has not been published, pre-publication drafts and results of hearings are public and the values referenced will be included.
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TG Recommendation:	Disapprove, 8-0-2
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TG Modification:	
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TG Reason:	
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PC051	ID 8317	701.4 Mandatory practices
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Submitter:	Theresa A Weston, ABAA & RAINA
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Comment:	<p>701.4.3.2 Air barrier, air sealing, building envelope testing, and insulation. Building envelope air barrier, air sealing envelope tightness, and insulation installation is verified to be in accordance with this Section and § 701.4.3.2.1. Insulation installation other than Grade 1 is not permitted.</p> <p>Mandatory</p>
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Reason:	(1) Testing. Conduct airtightness testing in accordance with procedures in ANSI/RESNET/ICC Std. 380, ASTM E779, ASTM E1827, or ASTM E3158 demonstrating compliance with the following leakage rates, as applicable
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	<p>to the type of home or dwelling unit.</p> <p>(a) For detached homes = 1,500 ft² , -measured airtightness shall be no greater than 5 ACH50.</p> <p>(b) For all other homes or dwelling units, the weighted average of the unguarded compartmentalization testing shall be no greater than 0.30 CFM50 per square foot of dwelling unit enclosure area.</p> <p>Testing shall be conducted after rough-in and after installation of penetrations of the building envelope, including penetrations for utilities, plumbing, electrical, ventilation, and combustion appliances. Testing is conducted under the following conditions:</p> <p>(a) Exterior windows and doors, fireplace and stove doors are closed, but not sealed;</p> <p>(b) Dampers are closed, but not sealed, including exhaust, intake, make-up air, backdraft and flue dampers;</p> <p>(c) Interior doors are open;</p> <p>(d) Exterior openings for continuous ventilation systems and heat recovery ventilators are closed and sealed;</p> <p>(e) Heating and cooling systems are turned off;</p> <p>(f) HVAC duct terminations are not sealed; and (g) Supply and return registers are not sealed.</p>
Reason:	This proposal reinserts struck language from the current draft. These building set-up conditions are needed for consistency across the four different test methods referenced in this section. These test methods do not conflict with with any of the referenced test method.
TG Recommendation:	Accept, 7-0-2
TG Modification:	
TG Reason:	

PC052	ID 8318	701.4 Mandatory practices
Submitter:	Theresa A Weston, ABAA & RAINA	
Comment:	<p>Table 701.4.3.2(2)</p> <p>IECC-2021 Table R402.4.1.1</p> <p><i>Modify "General requirements - Air Barrier Criteria" cell as follows:</i></p> <p>A continuous air barrier shall be installed in the building <u>thermal</u> envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed. Air-permeable insulation shall not be used as a sealing material.</p>	
Reason:	This change corrects the term "building envelope" to " building thermal envelope". "Thermal envelope" was included in the language that was struck for clarity and reduce redundancy. "Building thermal envelope" is a more specific term than "building envelope" and is the defined term.	
TG Recommendation:	Accept, 12-0-1	
TG Modification:		
TG Reason:	Add clarity, aligns with ASHRAE 90.1.	

PC053	ID 8319	701.4 Mandatory practices
Submitter:	Theresa A Weston, ABAA & RAINA	
Comment:	<p>Table 701.4.3.2(2)</p> <p>IECC-2021 Table R402.4.1.1 Air Barrier, Air Sealing and Insulation Installation</p> <p><i>Modify the "Rim joists - air barrier criteria" cell as follows:</i></p> <p>Rim joists shall include the and an exterior air barrier.(b) The junctions of the rim board to the sill plate and the rim board and the subfloor shall be air sealed.</p> <p>Modify Footnote (b):</p> <p>b. Air barrier and Insulation full enclosure <u>by an air barrier</u> is not required in unconditioned/ventilated attic spaces and at rim joists.</p>	

Reason:	Revisions for clarity that are editorial in nature.
TG Recommendation:	Accept as Modified, 11-0-2
TG Modification:	<p>Table 701.4.3.2(2)</p> <p>IECC-2021 Table R402.4.1.1 Air Barrier, Air Sealing and Insulation Installation <i>Modify the "Rim joists - air barrier criteria" cell as follows:</i> Rim joists shall include the and an exterior air barrier. (b) The junctions of the rim board to the sill plate and the rim board and the subfloor shall be air sealed. Modify Footnote (b): b. Air barrier and Insulation fully enclosed full enclosure by an air barrier is not required in unconditioned/ventilated attic spaces and at rim joists.</p>
TG Reason:	Editorial.

PC054	ID 8371	701.4 Mandatory practices
Submitter:	Jamie Carr, Self	
Comment:	701.4.4. High-efficacy lighting - I think there is a typo. It should read: (2) Lighting power density, measured in watts/square foot, shall be 0.45 or less.	
Reason:	typo	
TG Recommendation:	Accept as Modified, 12-0-1	
TG Modification:	(2) Lighting power density, measured in watts/square foot, is 1.1 shall be 0.45 or less.	
TG Reason:	Formatted to reflect submitters intent; makes necessary edit to avoid confusion.	

PC055	ID 8278	701.4.2 Duct systems
Submitter:	Philip LaRocque, self	
Comment:	701.4.2.1 (2) Testing. Dwelling unit duct leakage testing shall be required for single-family houses and multifamily structures of three stories or fewer above grade <u>where the ducts are in unconditioned space.</u>	
Reason:	Requiring all ducts to have leakage tests in conditioned space only in SF and bldgs up to 3 stories is discriminatory for these bldg types. We should not be in total submission to the 2021 IECC especially where the benefits do not outweigh the significant cost increase here. There was good reason why ducts in conditioned space did not need this added testing requirement- the leaks if any were contained inside the thermal envelope/conditioned space. We will continue to lose SF NGBS market opportunities with this additional mandate and related costs combined with the added cost for radon testing in Zone 2. If testing is so important then should be added to all bldg sizes.	
TG Recommendation:	Disapprove, 10-0-1	
TG Modification:		
TG Reason:	It's confusing when there is not alignment between NGBS and code.	

PC056	ID 8342	701.4.2 Duct systems
Submitter:	Abhishek Lal, Meridian Consulting, LLC	
Comment:	701.4.2.1 Duct air sealing and testing. Ducts are air sealed and tested.	

	<p>(1) All duct sealing materials are in conformance with UL 181A or UL 181B specifications and are installed in accordance with manufacturer’s instructions.</p> <p>(2) Testing. Dwelling unit <u>total</u> duct leakage testing is conducted following procedures in ANSI/RESNET/ICC Std. 380 or ASTM E1554 with a pressure differential of 0.1 in. w.g. (25 Pa) across the entire system and demonstrating compliance with one of the following leakage rates:</p> <p>Exception: Testing is not Mandatory for multifamily structures 4 or more stories in height and in compliance with ICC IECC Section C 403.2.9.</p> <p>(a) At rough-in test with air handler installed or at post construction, leakage shall be no greater than 4.0 CFM (113.3 L/min) per 100 ft² (9.29 m²) of conditioned floor area (CFM/100 cfa) or 40 CFM, whichever is greater; OR</p> <p>(b) At rough-in testing without the air handler installed, leakage shall be no greater than 3 CFM/100 cfa (85 L/min/9.29 m²) or 30 CFM, whichever is greater; OR</p> <p>(c) For ducts entirely within the thermal envelope, leakage shall be no greater than 8 CFM (226.6 L/min) /100 cfa (9.29 m²) or 80 CFM, whichever is greater.</p>
Reason:	The type of leakage testing hasn't been specified. Total leakage testing has been added to clarify the type of testing.
TG Recommendation:	Accept, 11-0-2
TG Modification:	
TG Reason:	Adds clarity and is consistent with IECC.

PC057	ID 8280	701.4.3 Insulation and air sealing
Submitter:	Philip LaRocque, self	
Comment:	<u>701.4.3.3 Multifamily air leakage alternative. Multifamily buildings four or more stories in height and in compliance with ICC IECC Section C402.5 (Air leakage-thermal envelope) are deemed to comply with § 701.4.3.1 and §701.4.3.2.</u>	
Reason:	I have added back section 701.4.3.2 so that MF bldgs over 3 stories continue to be exempt from blower door testing. The cost to add testing per the TG proposal is too significant and will cause some MF builders/developers/investors to walk away from NGBS 2024. A thorough Verifier insulation and air seal inspection following the insulation/air seal checklist will ensure high level whole building thermal envelope closure. In addition , to add this testing mandate to MF above 3 stories but not the duct testing proposals is inconsistent.	
TG Recommendation:	Disapprove, 8-0-3	
TG Modification:		
TG Reason:	Consistency with 2021 IECC testing requirements.	

PC058	ID 8302	701.4.4 High-efficacy lighting
Submitter:	Elysia Shanks, self	
Comment:	(2) Lighting power density, measured in watts/square foot, is 1.1 shall be 0.45 is 1.1 or less	
Reason:	I don't understand the wording that was provided. It looks like the LPD requirement for this credit is changing	

	from 1.1 to 0.45 w/sf. "is 1.1 shall be 0.45" doesn't make sense and it looks like it should read "shall be 0.45 or less."
TG Recommendation:	Disapprove, 11-0-1
TG Modification:	
TG Reason:	Addressed by actions on PC054.

PC059	ID 8343	701.4.4 High-efficacy lighting
Submitter:	Abhishek Lal, Meridian Consulting, LLC	
Comment:	701.4.4 High-efficacy lighting. Lighting efficacy in dwelling units or sleeping units is in accordance with one of the following: Mandatory (1) All permanently installed lighting fixtures, excluding kitchen appliance lighting fixtures, shall contain only high-efficacy lighting sources. (2) Lighting power density, measured in watts/square foot, is 1.1 shall be 0.45 or less.	
Reason:	There appears to be redundant language.	
TG Recommendation:	Disapprove, 10-0-1	
TG Modification:		
TG Reason:	Addressed by actions on PC054.	

PC060	ID 8293	702.1.1 Alternative Gold level compliance
Submitter:	Cindy Wasser, Home Innovation	
Comment:	701.1.7 702.1.1 Alternative Gold level compliance. As an alternative, any building that qualifies as a DOE Zero Energy Ready Homes, Version 1, or DOE Zero Energy Ready Multifamily building achieves the Gold level for Chapter 7.	
Reason:	Move this section up so that it is grouped with the other alternative compliance paths. These pathways do not belong under 702 Performance Path.	
TG Recommendation:	Accept as Modified, 11-0-1	
TG Modification:	701.1.67 702.1.1 Alternative Gold level compliance. As an alternative, any building that qualifies as a DOE Zero Energy Ready Homes, Version 1, or DOE Zero Energy Ready Multifamily building achieves the Gold level for Chapter 7. 701.1.67 Alternative Silver or Gold compliance for Tropical Zone (705)...	
TG Reason:	Agree with movement up to 701.1; reordered ahead of Tropical Zone items.	

PC061	ID 8373	702.1.1 Alternative Gold level compliance
Submitter:	Jamie Carr, Self	
Comment:	702.1.1 Alternate Gold level compliance. As an alternative, any building that qualifies as a DOE Zero Energy Homes, Version 1 Single Family or CA Single Family Version 2 or later , or DOE Zero Energy Ready Multifamily or CA Multifamily Version 2 or later achieves the Gold level for Chapter 7.	
Reason:	The versions of DOE ZERH referenced in the NGBS standard will be obsolete by the time the standard is published.	

TG Recommendation:	Accept as Modified, 8-0-3																				
TG Modification:	<p><i>Edit the practice as follows:</i></p> <p>701.1.62-1.1 Alternate Gold level compliance. As an alternative, any building that qualifies as a DOE Zero Energy Ready Homes, Version 1 Single Family or DOE Zero Energy Ready Homes CA Single Family Version 2 or later, or DOE Zero Energy Ready Multifamily or DOE Zero Energy Ready Homes CA Multifamily Version 2 or later achieves the Gold level for Chapter 7.</p> <p><i>Add the following reference to Ch 14:</i></p> <table border="1"> <thead> <tr> <th colspan="4">U.S. Department of Energy (DOE) Zero Energy Ready Homes</th> </tr> </thead> <tbody> <tr> <td>DOE Zero Energy Ready Homes</td> <td>Version 2</td> <td>National</td> <td>701.1.6</td> </tr> <tr> <td>DOE Zero Energy Ready Homes</td> <td>Version 2</td> <td>California Single-Family</td> <td>701.1.6</td> </tr> <tr> <td>DOE Zero Energy Ready Multifamily</td> <td>Version 2</td> <td>National</td> <td>701.1.6</td> </tr> <tr> <td>DOE Zero Energy Ready Multifamily</td> <td>Version 2</td> <td>California Multifamily</td> <td>701.1.6</td> </tr> </tbody> </table>	U.S. Department of Energy (DOE) Zero Energy Ready Homes				DOE Zero Energy Ready Homes	Version 2	National	701.1.6	DOE Zero Energy Ready Homes	Version 2	California Single-Family	701.1.6	DOE Zero Energy Ready Multifamily	Version 2	National	701.1.6	DOE Zero Energy Ready Multifamily	Version 2	California Multifamily	701.1.6
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DOE Zero Energy Ready Multifamily	Version 2	California Multifamily	701.1.6																		
TG Reason:	Edited for clarity and proper references.																				

PC062 ID 8294	702.1.2 Alternative Emerald level compliance
Submitter:	Cindy Wasser, Home Innovation
Comment:	701.1.8 702.1.2 Alternative Emerald level compliance. As an alternative, any building demonstrated to be net zero energy based on modeled site or source energy analysis, or any building that meets the 2021 Appendix CC Zero Energy Commercial Building provisions, or any building that meets the 2021 Appendix RC Zero Energy Residential Building provisions, achieves the Emerald level for Chapter 7.
Reason:	Move this section up so that it is grouped with the other alternative compliance paths. These pathways do not belong under 702 Performance Path.
TG Recommendation:	Accept as Modified, 9-0-1
TG Modification:	<p>701.1.78 702.1.2 Alternative Emerald level compliance. As an alternative, any building demonstrated to be net zero energy based on modeled site or source energy analysis, or any building that meets the 2021 Appendix CC Zero Energy Commercial Building provisions, or any building that meets the 2021 Appendix RC Zero Energy Residential Building provisions, achieves the Emerald level for Chapter 7.</p> <p>701.1.68 Alternative Silver of Gold compliance for Tropical Zones (705)...</p>
TG Reason:	Agree with reordering, moved ahead of Tropical Climate Zone.

PC063 ID 8383	702.2 Energy performance levels
Submitter:	Jamie Carr, Self
Comment:	702.2.2. Energy performance analysis Points are assigned using the following formula:

	Points = 30 + (percent above ICC IECC threshold identified in 702.2.1.1. or 702.2.1.2) * 2
Reason:	Harmonizes text of 702.2.2 with 702.2.1. If using the NGBS reference home as the performance benchmark, one would not be measuring a percent above the ICC IECC. I think it is misleading to say that that is what you are doing. The proposed text is a more accurate representation of the analysis being performed.
TG Recommendation:	Accept, 10-0-1
TG Modification:	
TG Reason:	

PC064	ID 8320	702.2.1 ICC IECC analysis
Submitter:	Theresa A Weston, ABAA & RAiNA	
Comment:	<i>Update Table 702.2.1.1 NGBS Reference Home Values (Single-Family & Low-Rise Multifamily Modeling) with references to 2024 IECC</i>	
Reason:	The standard should be updated to the most recent version of the IECC. It will be published before the NGBS is published and its content is largely publicly available.	
TG Recommendation:	Disapprove, 8-0-1	
TG Modification:		
TG Reason:	Consistent with other prior actions referring to IECC 2021.	

PC065	ID 8404	702.2.1 ICC IECC analysis
Submitter:	Jamie Carr, Self	
Comment:	<p>702.2.1 ICC IECC <u>equivalency</u> analysis. Energy efficiency features are implemented to achieve energy cost, or site energy, source energy, or carbon dioxide equivalent emissions (CO₂e) performance that complies with the ICC IECC thresholds (or equivalents thereof). When using equivalents to code thresholds, employ the methodology in ANSI/ASHRAE Standard 105-2021 or ASHRAE 189.1-2020. A documented analysis using software in accordance with ICC IECC Section R405, or 2021 ICC IECC Section C407.2 through C407.5, applied as defined in the ICC IECC, is required.</p> <p>702.2.1.2 <u>Minimum energy performance analysis.</u> Energy efficiency features are implemented to achieve energy cost, or site energy, or source energy, or CO₂e performance that complies with the applicable minimum energy performance threshold below: A documented analysis using software in accordance with ICC IECC Section R405, or ICC IECC Section C407.2 through C407.5, applied as defined in the ICC IECC, is required</p> <p>702.2.1.2.1 Residential buildings. A documented analysis that either demonstrates compliance with ICC IECC using software in accordance with ICC IECC Section R405 applied as defined in the ICC IECC, or that demonstrates performance at least as good as the NGBS Reference Home for ICC residential buildings in Table 702.2.1.1 using software approved by and applied as defined by the Adopting Entity, is required.</p> <p>702.2.1.2.2 Commercial buildings. A documented analysis that demonstrates compliance with the ICC IECC using software in accordance with ICC IECC Section C407.2 through C407.5 applied as defined in the ICC IECC, is required.</p>	
Reason:	I believe the language in the first instance of §702.2.1 should focus on the energy performance being equal to or better than the IECC and the second instance of §702.2.1 (which I propose separately renaming §702.2.2) should focus on how to quantify the energy efficiency features.	
TG Recommendation:	Accept as Modified, 10-0-1	
TG Modification:	<p>702.2.1 ICC IECC <u>equivalency</u> analysis. Energy efficiency features are implemented to achieve energy cost, or site energy, source energy, or carbon dioxide equivalent emissions (CO₂e) performance that complies with the ICC IECC thresholds (or equivalents thereof). When using equivalents to code thresholds, employ the methodology in ANSI/ASHRAE Standard 105-2021 or <u>the international green construction code ASHRAE</u></p>	

	<p>189-2020. A documented analysis using software in accordance with ICC IECC Section R405, or 2021 ICC IECC Section C407.2 through C407.5, applied as defined in the ICC IECC, is required.</p> <p>.....</p> <p>702.2.12 Minimum energy performance analysis. Energy efficiency features are implemented to achieve energy cost, or <u>site energy</u>, or source energy, or <u>CO2e</u> performance that <u>complies with the applicable minimum energy performance threshold in section 702.2.2.1 or 702.2.2.2 below</u> A documented analysis using software in accordance with ICC IECC Section R405, or ICC IECC Section C407.2 through C407.5, applied as defined in the ICC IECC, is required</p> <p>.....</p> <p>702.2.1.2.1 Residential buildings. A documented analysis that either demonstrates compliance with ICC IECC using software in accordance with ICC IECC Section R405 applied as defined in the ICC IECC, or that demonstrates performance at least as good as the NGBS Reference Home for ICC residential buildings in Table 702.2.1.1 using software approved by and applied as defined by the Adopting Entity, is required.</p> <p>702.2.1.2.2 Commercial buildings. A documented analysis that demonstrates compliance with the ICC IECC using software in accordance with ICC IECC Section C407.2 through C407.5 applied as defined in the ICC IECC, or ASHRAE 90.1 Appendix G or Energy Cost Budget simulation general requirements, is required.</p>
TG Reason:	Further clarification of the section and to include ASHRAE methodologies.

PC066	ID 8385	702.2.1 Minimum energy performance analysis
Submitter:	Jamie Carr, Self	
Comment:	The second instance of 702.2.1 should change to 702.2.2, and subsequent subsections should also increase by 1.	
Reason:	There are two \$702.2.1, the second one should change to 702.2.2 and subsequent subsection numbers should also increase by 1.	
TG Recommendation:	Disapprove, 10-0-1	
TG Modification:		
TG Reason:	This correction has already been made in action PC065.	

PC067	ID 8405	702.2.1 Minimum energy performance analysis
Submitter:	Jamie Carr, Self	
Comment:	702.2.2. Energy performance analysis. Energy savings levels above the <u>threshold identified in 702.2.1.1. or 702.2.1.2-ICC IECC</u> are determined through . . .	
Reason:	I recommend making this change for accuracy. In the case of the comparison to the NGBS Reference Home in section 702.2.1.1., the comparison is not to the ICC IECC, but rather to the NGBS reference home. I think it is important to make that distinction clear. It is entirely possible for a residential building to perform worse than the ICC IECC when using software in accordance with ICC IECC Section R405, but better than the NGBS reference home.	
TG Recommendation:	Disapprove, 10-0-1	
TG Modification:		
TG Reason:	This correction has already been made in action PC065.	

PC068	ID 8417	702.2.1 Minimum energy performance analysis
Submitter:	Kimberly Pelosi, MaGrann Associates	
Comment:	Regarding Section 702.2.1, and the addition to the 2024 draft providing an option to demonstrate Energy Efficiency Performance Path compliance based on carbon savings analysis, we suggest ANSI consider the	

	ramifications of using regionally specific grid information in evaluating energy performance levels. In areas where the grid is generating a high proportion of renewable electricity, this may allow for an excessive amount of electricity to be used while maintaining a negligible carbon impact. How will NGBS promote energy efficiency in these areas?
Reason:	See Proposed Changes
TG Recommendation:	Disapprove, 9-0-1
TG Modification:	
TG Reason:	No formal changes to consider.

PC069	ID 8295	703 PRESCRIPTIVE PATH
Submitter:	Cindy Wasser, Home Innovation	
Comment:	Add missing value.	
Reason:	The following tables have missing values. I ask TG4 to determine the appropriate values to be included, based on review of the 2021 and 2024 IECC texts: Table 703.3.2(1a) Table 703.3.2(1b) Table 703.3.2(4) Table 703.5.1(2c)	

TG Recommendation: Accept as Modified, 7-0-4

TG Modification:	<p style="text-align: center;">Table 703.3.2(1)(a) Gas and Propane Heating Systems</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="3" style="background-color: #cccccc;">AFUE / COP</th> <th colspan="8" style="background-color: #cccccc;">Climate Zone</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> <tr> <th colspan="8" style="background-color: black; color: white; text-align: center;">POINTS</th> </tr> </thead> <tbody> <tr> <td>≥90% AFUE</td> <td>0</td> <td>2</td> <td>3</td> <td>6</td> <td>6</td> <td>9</td> <td>10</td> <td>12</td> </tr> <tr> <td>≥92% AFUE</td> <td>0</td> <td>2</td> <td>4</td> <td>7</td> <td>8</td> <td>10</td> <td>12</td> <td>14</td> </tr> <tr> <td>≥94% AFUE</td> <td>0</td> <td>3</td> <td>4</td> <td>9</td> <td>9</td> <td>12</td> <td>14</td> <td>16</td> </tr> <tr> <td>≥96% AFUE</td> <td>1</td> <td>3</td> <td>5</td> <td>10</td> <td>10</td> <td>14</td> <td>16</td> <td>19</td> </tr> <tr> <td>≥98% AFUE</td> <td>1</td> <td>3</td> <td>6</td> <td>11</td> <td>12</td> <td>16</td> <td>18</td> <td>21</td> </tr> <tr> <td>≥120% AFUE <u>1.2 COP</u> a</td> <td><u>1</u></td> <td><u>4</u></td> <td><u>9</u></td> <td><u>16</u></td> <td><u>18</u></td> <td><u>23</u></td> <td><u>26</u></td> <td><u>30</u></td> </tr> <tr> <td>≥140% AFUE <u>1.4 COP</u> a</td> <td><u>1</u></td> <td><u>5</u></td> <td><u>11</u></td> <td><u>19</u></td> <td><u>21</u></td> <td><u>26</u></td> <td><u>30</u></td> <td><u>35</u></td> </tr> </tbody> </table> <p>a. This requirement is used for gas-fired heat pump systems.</p> <p style="text-align: center;">Table 703.3.2(1)(b) Gas and Propane Heating Systems for Multifamily Buildings Four or More Stories in</p>	AFUE / COP	Climate Zone								1	2	3	4	5	6	7	8	POINTS								≥90% AFUE	0	2	3	6	6	9	10	12	≥92% AFUE	0	2	4	7	8	10	12	14	≥94% AFUE	0	3	4	9	9	12	14	16	≥96% AFUE	1	3	5	10	10	14	16	19	≥98% AFUE	1	3	6	11	12	16	18	21	≥120% AFUE <u>1.2 COP</u> a	<u>1</u>	<u>4</u>	<u>9</u>	<u>16</u>	<u>18</u>	<u>23</u>	<u>26</u>	<u>30</u>	≥140% AFUE <u>1.4 COP</u> a	<u>1</u>	<u>5</u>	<u>11</u>	<u>19</u>	<u>21</u>	<u>26</u>	<u>30</u>	<u>35</u>
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Height

AFUE / COP	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
≥90% AFUE	0	4	4	8	8	10	11	13
≥92% AFUE	0	4	4	9	10	11	12	14
≥94% AFUE	0	5	5	10	11	12	14	16
≥96% AFUE	0	5	5	12	12	13	15	17
≥98% AFUE	0	6	6	13	13	14	16	18
≥120% AFUE <u>1.2 COP^a</u>	<u>0</u>	<u>8</u>	<u>8</u>	<u>18</u>	<u>18</u>	<u>18</u>	<u>21</u>	<u>23</u>
≥140% AFUE <u>1.4 COP^a</u>	<u>0</u>	<u>9</u>	<u>9</u>	<u>21</u>	<u>21</u>	<u>21</u>	<u>24</u>	<u>26</u>

a. This requirement is used for gas-fired heat pump systems.

Table 703.3.3(3)

Gas Engine-Driven Heat Pump Heating

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

Table 703.3.2(4)

Oil Boiler

AFUE	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
≥90% AFUE	<u>10</u>	2	3	5	6	7	9	10
≥95% AFUE	<u>0</u>	<u>2</u>	<u>3</u>	<u>6</u>	<u>6</u>	<u>9</u>	<u>10</u>	<u>12</u>

Table 703.5.1(2)(c) Storage Water Heater, Rated Storage Volume > 120 Gallons, Medium Water Draw								
Coefficient of Performance	Climate Zone							
	1	2	3	4	5	6	7	8
	POINTS							
2.5 to <3.0	<u>14</u>	<u>8</u>	<u>7</u>	<u>5</u>	<u>4</u>	<u>4</u>	<u>2</u>	<u>2</u>
3.0 to <3.5	<u>17</u>	<u>9</u>	<u>8</u>	<u>6</u>	<u>5</u>	<u>4</u>	<u>3</u>	<u>3</u>
3.5 to <4.0	<u>18</u>	<u>12</u>	<u>10</u>	<u>8</u>	<u>6</u>	<u>6</u>	<u>3</u>	<u>3</u>
≥4.0	<u>22</u>	<u>16</u>	<u>13</u>	<u>11</u>	<u>8</u>	<u>8</u>	<u>4</u>	<u>3</u>
Credits are only available for central systems that provide at least 80% of total system volume in the building.								
TG Reason: Tables updated to reflect appropriate efficiency metric and scaled system.								

PC070	ID 8282	703.1 Mandatory practices
Submitter:	Cindy Wasser, Home Innovation	
Comment:	<p>703.1.1.2 Prescriptive R-values and fenestration requirements. The building thermal envelope is in accordance with the insulation and fenestration requirements of ICC IECC Table R402.1.23 or Table C402.1.3. The fenestration U-factors and SHGC's are in accordance with Table 703.2.5.1 or ICC IECC Table R402.1.2 or Table C402.4. Unconditioned buildings 3 stories or less in height located in the Tropical Zone are exempt from this practice if the building meets a minimum has a roof SRI of not less than 0.85, and a minimum wall reflectivity of not less than 0.39.</p> <p>Delete Table 703.2.5.1.</p>	
Reason:	<p>My understanding is that Table 703.2.5.1 was intended for low-rise construction, and Table C402.4 was intended for high-rise construction. That, however, is not clear in the text as written. NGBS Green Partners with multifamily projects regularly call Home Innovation with questions about this practice. It is also not clear why one set of requirements is included directly within the Standard while the other is a code reference. I suggest including both sets of requirements as code references to make the practice clearer.</p>	
TG Recommendation:	Accept as Modified, 8-0-1	
TG Modification:	<p>703.1.1.2 Prescriptive R-values and fenestration requirements. The building thermal envelope is in accordance with the thermal insulation and fenestration requirements of ICC IECC Table R402.1.23 or Table C402.1.3, <u>as applicable</u>. The fenestration U-factors and SHGC's are in accordance with Table 703.2.5.1 or ICC IECC Table R402.1.2 or Table C402.4 <u>as applicable</u>. <u>Unconditioned buildings 3 stories or less in height located in the Tropical Zone are exempt from this practice if the building meets a minimum</u> has a roof SRI of not less than 0.85, and a minimum wall reflectivity of not less than 0.39.</p> <p>703.2.5.1 NFRC-certified (or equivalent) U-factor and SHGC of windows, exterior doors, skylights, and tubular daylighting devices (TDDs) on an area-weighted average basis do not exceed the values in <u>ICC IECC Table</u></p>	

	<p>R402.1.2 or Table C402.4 as applicable Table 703.2.5.1. Area weighted averages are calculated separately for the categories of 1) windows and exterior doors and 2) skylights and tubular daylighting devices (TDDs). Decorative fenestration elements with a combined total maximum area of <u>not greater than 15 ft2 (1.39 m2)</u> or 10% of the total glazing area, whichever is less, are not required to comply with this practice. Unconditioned buildings 3 stories or less in height located in the Tropical Zone are exempt from this practice if the building meets has a minimum roof SRI of not less than 0.85, and a minimum wall reflectivity of not less than 0.39.</p> <p><u>Delete Table 703.2.5.1.</u></p>
TG Reason:	Table is unnecessary given the prescriptive requirements in accordance with IECC tables. Including the commercial tables to address multifamily that would follow the commercial path.

PC071	ID 8321	703.2 Building envelope
Submitter:	Theresa A Weston, ABAA & RAINA	
Comment:	<p>Table 703.2.4(a) Building Envelope Leakage <i>Remove points for 4ACH50, as this is the mandatory max level in the IECC 2024</i></p> <p>Table 703.2.4(b) Building Envelope Leakage <i>Remove points for .28 ELR50 as .27 is the mandatory max level in the IECC 2024</i> <i>This corresponds with my proposal for section 701.4.3.2</i></p>	
Reason:	Brings the NGBS in alignment with 2024 IECC	
TG Recommendation:	Disapprove, 10-0-1	
TG Modification:		
TG Reason:	Consistent with other actions to maintain alignment to the IECC 2021.	

PC072	ID 8356	703.2 Building envelope
Submitter:	Doug Mazeffa, Associated Materials	
Comment:	<p>The fenestration industry utilizes Energy Star and EPA's climate zones and program requirements for decades. Although it is clear why the NGBS references the IECC climate map, it would be helpful if the Energy Star 7.0 climate map be cross-walked or at least referenced. This is especially true given the significant revisions to Energy Star 7.0 and the variety of tax credits and rebates that reference the Energy Star climate map and overall program requirements. Including Energy Star certification and its climate zones in this standard would undoubtedly increase adoption and reduce confusion in this area.</p> <p>Please consider allowing some pathway/crosswalk for Energy Star to increase adoption by both manufacturers and the design community.</p>	
Reason:	Current language does not align with regulatory requirements for certain product types (fenestration, for example).	
TG Recommendation:	Disapprove, 9-0-1	
TG Modification:		
TG Reason:	IECC is the regulatory program for the states, so their program should be used rather than a voluntary program.	

PC073	ID 8377	703.4 Duct systems
Submitter:	Cindy Wasser, Home Innovation	
Comment:	Points not awarded if points are taken under § 706.6.2.3. 705-6.2.3.	
Reason:	Footnote under Table 703.4.4 was not updated after the new 705 (Alternative Tropical Zone Compliance) was added. Reference must be updated to refer to the intended section - HVAC Duct Leakage Testing.	
TG Recommendation:	Accept, 9-0-1	
TG Modification:		
TG Reason:		

PC074	ID 8292	703.6 Lighting and appliances
Submitter:	Cindy Wasser, Home Innovation	
Comment:	<p>703.6.2 3 Appliances.</p> <p><u>(1)</u> ENERGY STAR or equivalent appliance(s) are installed:</p> <p>(a) Refrigerator <u>1 point</u> Per Table 703.6.2(1)</p> <p>Table 703.6.2(1)</p> <p>Refrigerator</p> <p>Climate Zone</p> <p>1 2 3 4 5 6 7 8</p> <p>POINTS</p> <p>1 1 1 1 1 1 1 1</p> <p>(b) Dishwasher 1</p> <p>(c) Washing machine 4</p> <p><u>(2)</u> (1) Install Consortium for Energy Efficiency (CEE) Tier 2 or higher tier appliances for the below types of appliances:</p> <p>(a) Refrigerator 3</p> <p>(b) Dryer 3</p>	
Reason:	The ENERGY STAR and CEE labels were intended to be two separate items available for points. They should be identified with separate numbered sub-sections. ENERGY STAR should not be referenced in the charging language. Also, delete Table 703.6.2(1). There is no need for a table format, since the point value is the same across every climate zone. Question for TG: Is there a maximum point value for this practice? If a product is labeled to both ES and CEE, can they earn points under both (1) and (2)?	
TG Recommendation:	Accept as Modified, 8-0-2	
TG Modification:	<p>703.6.2 3 Appliances.</p> <p><u>(1)</u> ENERGY STAR or equivalent appliance(s) are installed:</p> <p>(a) Refrigerator <u>1 point</u> Per Table 703.6.2(1)</p> <p>Table 703.6.2(1)</p>	

	<p>Refrigerator</p> <p>Climate Zone</p> <p>1 2 3 4 5 6 7 8</p> <p>POINTS</p> <p>1 1 1 1 1 1 1 1</p> <p>(b) Dishwasher 1</p> <p>(c) <u>Clothes Washer</u> Washing machine 4</p> <p><u>(d) Clothes Dryer 1</u></p> <p>(2) (1) Install Consortium for Energy Efficiency (CEE) Tier 2 or higher tier appliances for the below types of appliances:</p> <p>(a) Refrigerator 3</p> <p><u>(b) Dishwasher 2</u></p> <p><u>(c) Clothes Washer 5</u></p> <p>(d) <u>Clothes Dryer 3</u></p>
TG Reason:	To give credit for the same type of appliances, but at different tiers by acknowledging higher efficiency higher CEE appliances. Points to be addressed by a public comment on the next draft when point balancing occurs.

PC075	ID 8344	703.6 Lighting and appliances
Submitter:	Abhishek Lal, Meridian Consulting, LLC	
Comment:	<p>703.6.2 3 Appliances.</p> <p>ENERGY STAR or equivalent appliance(s) are installed:</p> <p>a. Refrigerator</p> <p>Table 703.6.2(1)</p> <p>b. Dishwasher</p> <p>c. Washing machine</p> <p>(1) Install Consortium for Energy Efficiency (CEE) Tier 2 or higher tier appliances for the below types of appliances:</p> <p>(a) Refrigerator 3</p> <p>(b) Dryer 3</p>	

	(c) Dishwasher..... 3
Reason:	CEE Tier 2 dishwashers are available but aren't included in the draft criteria.
TG Recommendation:	Disapprove, 8-0-2
TG Modification:	
TG Reason:	The previous submittal PC074 added dishwashers. Points to be addressed by a public comment on the next draft when point balancing occurs.

PC076	ID 8308	705.2 Additional Tropical Zone practices
Submitter:	Jonathan Humble, Cool Roof Rating Council	
Comment:	<p>705.2.4 Roof. The exterior roof surface complies with not less than one of the following:</p> <p>(1) Silver – one practice.</p> <p>(2) Gold – two or more practices:</p> <p>(a) Not less than an initial solar reflectance of 0.75 and <u>thermal</u> emittance of 0.75. <u>Roof products are rated and labeled in accordance with the CRRC-1 Program.</u></p> <p>(b) Not less than an initial solar reflectance index of 75.</p> <p>(c) Roof or ceiling has insulation with an R-Value of R-13 or greater.</p> <p>(d) Includes a radiant barrier.</p> <p>(See also related Section 14 Referenced Standard related modifications)</p>	
Reason:	The 2024 update draft Section 705.2.4 currently has no reference to a rating source, and therefore allows the user to apply any method or process the user sees fit. This creates a conflict for enforcement and consistency. (See also related Section 14 Referenced Document modifications) It is proposed that subpart (2)(a) be revised to include the reference to the CRRC-1 Program. It is also proposed to have the CRRC acronym corrected, along with the title of CRRC-1 in Section 14 Referenced Documents, along with the new section reference to 705.2.4 added to the listing.	
TG Recommendation:	Accept as Modified, 8-0-2	
TG Modification:	<p>705.2.4 Roof. The exterior roof surface complies with not less than one of the following:</p> <p>(1) Silver – one practice.</p> <p>(2) Gold – two or more practices:</p> <p>(a) Not less than an initial solar reflectance of 0.75 and <u>thermal</u> emittance of 0.75. <u>Roof products are rated tested and labeled in accordance with the ANSI/CRRC S100Program.</u></p> <p>(b) Not less than an initial solar reflectance index of 75.</p> <p>(c) Roof or ceiling has insulation with an R-Value of R-13 or greater.</p> <p>(d) Includes a radiant barrier.</p> <p>(See also related Section 14 Referenced Standard related modifications)</p>	
TG Reason:	The modification keeps the testing requirements but removes the labeling requirement as to avoid a	

	proprietary program.
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PC077	ID 8310	705.2 Additional Tropical Zone practices
Submitter:	Jonathan Humble, Cool Roof Rating Council	
Comment:	<p>705.2.3 Exterior Walls. Exterior walls comply with not less than one of the following:</p> <p>(1) Silver – one practice.</p> <p>(2) Gold – two practices:</p> <p>(a) Walls have insulation with an R-value of R-13 or greater.</p> <p>(b) Walls <u>products</u> have a <u>minimum initial</u> solar reflectance of 0.64. <u>Wall products are rated and labeled in accordance with CRRC-2 Program.</u></p> <p>–</p> <p>(See also related Section 14 Referenced Standards code change proposal)</p>	
Reason:	<p>Code change proposal P022 (ID 8007) was Disapproved by the Committee for the following reason, “In favor of new stand-alone Tropical Zone Section” This is an inadequate reason statement for the reasons shown below. The Committee reason statement: 1. Is not based on technical substantiation relevant to the original code change proposal P022, and 2. Is contrary to the actions and recommendations by the Tropical Zone Task Group 8 recommendation which stated “Accept as Modified” with a Vote of 4-0-0. The Task Group further stated that this proposal “clarifies the requirements and updates the reference document” to the CRRC-2 Wall Product Rating Program Manual dated 2022. It is proposed that the Committee reconsider this proposal in order that the following can be executed with fairness and competency, as follows: • Include the reference to the CRRC-2 program to establish a level playing field for users and enforcers, such as what is required for cool roof requirements in the Standard, and • Modify further the existing language to require a “minimum” value. Original reason statement for reference: Problem Statement: The current exterior wall provisions in the ICC 700 standard include a requirement to meet a single solar reflectance value. It is not clear if the intent is to require only the installation of exterior wall products with a solar reflectance of 0.64 or to allow products that exceed this value. By only stating a single value, this greatly reduces the number of eligible products that can be installed, including those that are more reflective. Furthermore, the existing requirement does not reference any standards or programs that would ensure that a product’s solar reflectance value is credible. The lack of a referenced standard or program also greatly reduces the ability for consumers to easily identify compliant products in the market. Proposal and Rationale: We recommend that the phrase “minimum initial” be included as shown in the proposal. Currently, the provision states that the wall product must have a solar reflectance value of 0.64. By not stating “minimum” solar reflectance of 0.64, it greatly reduces the number of products eligible for installation, including those that are more reflective. We recommend inserting “initial” to be consistent with the phrasing in the existing requirements for cool roofs in Sections 602.2 and 11.602.2 of ICC 700-2020. In addition, we propose adding a reference to the CRRC-2 Wall Product Rating Program Manual, a document that details the testing and labeling requirements of the CRRC Wall Rating Program. The manual was developed and vetted over a two-year period by a 27-member committee comprising 21 different organizations, including manufacturing and trade associations. Through the CRRC Wall Rating Program, manufacturers and sellers have the opportunity to get their wall products tested and labeled in accordance with the CRRC’s strict protocols outlined in the CRRC-2 Program Manual. The CRRC is a 501(c)(3) nonprofit organization established in 1998 to develop accurate and credible methods for evaluating and labeling the radiative properties of roofing products. The CRRC also provides education to the public on how cool roofs and solar-reflective walls can help improve building energy efficiency, increase occupant comfort, mitigate the impacts of the urban heat Island effect, and reduce greenhouse gas emissions. In 2018, the CRRC officially expanded the organization’s scope and mission to include the rating of exterior wall products. The CRRC worked closely with stakeholders from industry and end users on the development of the program over a two-year period. The program, which is the first and only in the world, officially launched on January 17, 2022. The CRRC Wall Rating Program is similar to the CRRC Roof Rating Program (CRRC-1), but with some technical differences. Please note that participation in the CRRC Wall Rating Program is separate and distinct from</p>	

	<p>CRRC Membership. A wall product manufacturer is not required to be a member of the CRRC to have their product(a) tested and listed in accordance with the CRRC-2 Wall Rating Program Manual, which also includes listing in the free, online CRRC Rated Wall Products Directory (https://coolroofs.org/directory/wall). The CRRC-2 Wall Product Rating Program Manual includes: Accredited testing laboratory requirements; Approved test farms weathering requirements; Testing requirements, Product rating and licensing requirements. Labeling requirements CRRC Rated Wall Products Directory: This is a free, online database that will list the initial and three-year aged solar reflectance and thermal emittance of exterior wall products. The directory will go live once wall products are initially rated. [UPDATE: There are now over 80 wall products listed as of August 2023] Products with only initial values will be listed through the duration of the three-year weathering process. The aged values will be added to the product listing after the weathering period is complete and aged testing performed. A CRRC product rating describes the radiative performance (solar reflectance and thermal emittance) of an exterior wall material; it does not indicate a ranking or approval. A product's placement in the CRRC Rated Wall Products Directory does not mean that the product is "cool" as defined by any particular code or program. Only products with active ratings can be found in the Rated Wall Products Directory. Request to meet with ICC-700 Committee: The CRRC would appreciate the opportunity to speak with the ICC-700 consensus committee when this item is presented for consideration. Resources: A copy of CRRC-2 Wall Product Rating Program Manual can be downloaded at no charge from the following address: https://coolroofs.org/programs/wall-rating-program/all-forms-2 The CRRC Wall Rating Program can be seen at: https://coolroofs.org/programs/wall-rating-program. (See also related Section 14 Referenced Standards code change proposal)</p>
TG Recommendation:	Accept as Modified, 7-0-2
TG Modification:	<p>705.2.3 Exterior Walls. Exterior walls comply with not less than one of the following:</p> <p>(1) Silver – one practice.</p> <p>(2) Gold – two practices:</p> <p>(a) Walls have insulation with an R-value of R-13 or greater.</p> <p>(b) Walls <u>products</u> have a <u>minimum initial</u> solar reflectance of 0.64. <u>Wall products shall be tested are rated and labeled in accordance with Chapter 3 testing requirements of CRRC-2-Program.</u></p> <p>-</p> <p>(See also related Section 14 Referenced Standards code change proposal)</p>
TG Reason:	The modification keeps the testing requirements but removes the labeling requirement as to avoid a proprietary program.

PC078	ID 8374	705.2 Additional Tropical Zone practices
Submitter:	Cindy Wasser, Home Innovation	
Comment:	See edits within attached PDF file.	
Reason:	The current text for 705.2 is difficult to navigate, as both Silver and Gold requirements are presented together. I suggest reorganizing so that there are separate lists of practices for Silver and Gold. My edits also reflect some minor editorial changes.	
Substantiating Documents:	Yes	
TG Recommendation:	Accept, 7-0-0	
TG Modification:		
TG Reason:		

PC079	ID 8378	705.2 Additional Tropical Zone practices
Submitter:	Cindy Wasser, Home Innovation	
Comment:	(b) Walls have a solar reflectance of no less than 0.64.	
Reason:	705.2.3(2b) refers to a single solar reflectance value. Is this too limiting? Would it be better for a range of values to be noted?	
TG Recommendation:	Accept, 8-0-0	
TG Modification:		
TG Reason:	To provide a full range of better performing solar reflectance rather than a single number.	

PC080	ID 8303	706.5 HVAC design and installation
Submitter:	Elysia Shanks, self	
Comment:	706.5.1 complying Comply with at least one of the following:	
Reason:	Incorrect wording	
TG Recommendation:	Accept, 7-0-1	
TG Modification:		
TG Reason:		

PC081	ID 8387	707 INNOVATIVE PRACTICES
Submitter:	Pranav Phatak, Self	
Comment:	<p>707.2 Renewable energy service plan.</p> <p>(2) The buyer of the building selects one of the following renewable energy service plans provided by the utility prior to occupancy of the building with no less than a two-year commitment or buys RECs from a third-party provider to match the estimated projected electricity use for the building for two years.</p> <p>(a) less than 50% of the dwelling's <u>building's common areas (amenities, outdoors, parking, stairwell, corridors etc.) have a</u> projected electricity and gas use <u>that</u> is provided by renewable energy. [1]</p> <p>(b) greater than or equal to 50% of the dwelling's <u>building's common areas (amenities, outdoors, parking, stairwell, corridors etc.) have a</u> projected electricity and gas use <u>that</u> is provided by renewable energy. [2]</p> <p>(c) <u>the entire building (all units and common areas included) has a projected electricity and gas use that is provided by renewable energy.</u> [5]</p>	
Reason:	For multifamily buildings, the builder/owner will likely only be able to determine the energy source for common areas and the units. In cases where the whole building is receiving energy from the same source – like affordable housings, rehab centers etc. option (c) can be selected (after service agreement documentation is verified).	
TG Recommendation:	Accept as Modified, 6-0-1	
TG Modification:	<p>707.2 Renewable energy service plan.</p> <p>(2) The buyer of the building selects one of the following renewable energy service plans provided by the utility prior to occupancy of the building with no less than a two-year commitment or buys RECs from a third-party provider to match the estimated projected electricity use for the building for two years.</p> <p>(a) less than 50% of the dwelling's <u>building's common areas (amenities, outdoors, parking, stairwell, corridors etc.) have</u> <u>has a</u> projected electricity and gas use <u>that</u> is provided by renewable energy. [1]</p>	

	(b) greater than or equal to 50% of the dwelling's building's common areas (amenities, outdoors, parking, stairwell, corridors etc.) have <u>has a</u> projected electricity and gas use <u>that</u> is provided by renewable energy. [2] (c) <u>the entire building (all units and common areas included) has a projected electricity and gas use that is provided by renewable energy.</u> [5]
TG Reason:	Common areas are a defined term, no need for further description.

PC082	ID 8409	707.2 Renewable energy service plan
Submitter:	Jamie Carr, Self	
Comment:	Seems odd that Green-e Certified REC are required under 707.2(1) but not 707.2(2). I would recommend adding the final sentence of 707.2 (1) immediately before 707.2 (2)(a).	
Reason:	Consistency	
TG Recommendation:	Accept as Modified, 8-0-3	
TG Modification:	707.2 Renewable energy service plan. Renewable energy service plan is provided as follows: (1) Builder selects a renewable energy service plan provided by the local electrical utility for interim (temporary) electric service, or purchases renewable energy certificates (RECs) <u>from a third-party provider</u> to cover electricity used. The builder's local administrative office has renewable energy service or has otherwise been paired with RECs. Green-e Certified (or equivalent) is required for renewable electricity purchases. (2) The buyer of the building selects one of the following renewable energy service plans provided by the utility prior to occupancy of the building with a minimum <u>no less than</u> a two-year commitment <u>or buys RECs from a third-party provider to match the estimated projected electricity use for the building for two years.</u> <u>Green-e Certified (or equivalent) is required for renewable electricity purchases.</u>	
TG Reason:	Clarification for consistency with 707.2 (1).	

PC083	ID 8382	707.4 Pumps
Submitter:	Pranav Phatak, Self	
Comment:	707.4.1 Pool, spa, and water features equipped with filtration pumps as follows: <u>that are ENERGY STAR certified or equivalent are installed.</u> [1] (1) Electronically controlled variable speed pump(s) is installed (full load efficiency of 90% or greater). [1] (2) Electronically controlled variable speed pump(s) is installed (full load efficiency of 90% or greater) in a pool. [3] 707.4.2 Sump pump(s), with electrically commutated motors (ECMs) or permanent split capacitor (PSC) motors, is installed (full load efficiency of 90% or greater). <u>ENERGY STAR certified or equivalent sump pump(s) is installed.</u> [1]	
Reason:	ENERGY STAR certificates for pool/sump pumps do not include full load efficiency of the electric motor.	

	Instead they use a weighted energy factor (WEF) in kgal/kWh to indicate the effectiveness of the appliance. See attached document as an example.
Substantiating Documents:	Yes
TG Recommendation:	Accept as Modified, 10-0-1
TG Modification:	<p>707.4.1 Pool or , spa, and water features equipped with filtration pumps as follows: <u>that are ENERGY STAR certified or equivalent are installed.</u> [1]</p> <p>(1) Pool is equipped with <u>ENERGY STAR certified or equivalent filtration pump(s)</u> [3]</p> <p>(2) Spa is equipped with <u>ENERGY STAR certified or equivalent filtration pump(s)</u> [1]</p> <p>(1) Electronically controlled variable speed pump(s) is installed (full load efficiency of 90% or greater). [1]</p> <p>(2) Electronically controlled variable speed pump(s) is installed (full load efficiency of 90% or greater) in a pool. [3]</p> <p>707.4.2 All sump pump(s), with electrically-electronically commutated motors (ECMs) or permanent split capacitor (PSC) motors, is are installed (full load efficiency of 90% or greater). <u>ENERGY STAR certified or equivalent sump pump(s) is installed.</u> [1]</p>
TG Reason:	Modified to include Energy Star for pools and spas with points equivalent to energy efficiency. Sump pumps capped as separate credit since energy star certificate not available and PSC language removed since it is too difficult for verification.

PC084	ID 8392	707.8 Electrical vehicle chargers
Submitter:	Nate Steeber, self	
Comment:	If section 505.6 is to be approved, then this section should be removed entirely. If section 505.6 is revised to be charging capability, then this section should remain.	
Reason:	Section 505.6 has proposed changes to award points for a vehicle charger instead of vehicle charger capability. This in essence makes 505.6 and 707.8 the same, except for awarded points and variations on language.	
TG Recommendation:	Defer to CC,	
TG Modification:		
TG Reason:	The task group believes the practice should be retained but did not want to make a motion and inadvertently delete it entirely. The full consensus committee should decide where this practice would be best placed.	

PC085	ID 8393	707.9 CNG vehicle fueling station
Submitter:	Nate Steeber, self	
Comment:	If section 505.7 is not removed, then this section should be removed entirely. If section 505.6 is removed, then this section should remain. In my opinion, it makes more sense for 707.9 to stay, and 505.7 to be removed.	
Reason:	505.7 and 707.9 the same, except for awarded points and variations on language.	
TG Recommendation:	Defer to CC,	
TG Modification:		
TG Reason:	The task group believes the practice should be retained but did not want to make a motion and inadvertently	

	delete it entirely. The full consensus committee should decide where this practice would be best placed.
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PC086	ID 8375	SECTION 7 - Other
Submitter:	Jamie Carr, Self	
Comment:	I suggest moving Section 702.1.1. Alternate Gold level compliance and Section 702.1.2 Alternate Emerald level compliance to §701.1. with all of the other alternate paths for energy compliance. That way all of the alternates for energy compliance are in one place instead of two.	
Reason:	It would make the standard easier to use if all of the alternate energy compliance paths were in one place.	
TG Recommendation:	Disapprove, 10-0-1	
TG Modification:		
TG Reason:	The actions taken on PC060 and PC062 address this comment.	

PC087	ID 8408	SECTION 7 - Other
Submitter:	Jamie Carr, Self	
Comment:	701.1.1 thru 701.1.3 - if the standard changes the numbering of section 705 and 706, those updated numbers should be reflected here.	
Reason:	Coordination of changes across sections	
TG Recommendation:	Disapprove, 9-0-1	
TG Modification:		
TG Reason:	Editorial and will get picked up through the editing process.	

Section 8: Water Efficiency

PC088	ID 8274	802.3 Water usage metering
Submitter:	Cindy Wasser, Home Innovation	
Comment:	<p>(2) Multifamily Buildings: Water Usage Metering</p> <p>(a) Where not otherwise required by the AHJ, installation of a meter for water consumed from any source associated with the building or building site <u>except for pools and spas</u></p>	
Reason:	It appears that 802.3(2) can be awarded for multifamily pool/spa metering. This practice directly overlaps with 802.11 Pools & Spas, which is a mandatory practice. The suggested edit would ensure that points are not awarded under 802.3(2) for simply meeting 802.11.	
TG Recommendation:	Accept as Modified, 6-0-1	
TG Modification:	<p>(1) Single-Family Buildings: Water Usage Metering:</p> <p>(a) Where not otherwise required by the local AHJ, installation of a meter for water consumed from any source associated with the building or building site <u>except for pools and spas</u>.</p> <p>(b) Each water meter shall be capable of communicating water consumption data remotely for the dwelling unit occupant and be capable of providing daily data with electronic data storage and reporting capability that can produce reports for daily, monthly, and yearly water consumption. (Fire sprinkler systems are not required to be metered).</p> <p>(2) Multifamily Buildings: Water Usage Metering:</p> <p>(a) Where not otherwise required by the local AHJ, installation of a meter for water consumed from any source associated with the building or building site <u>except for pools and spas</u>.</p> <p>(b) Each water meter shall be capable of communicating water consumption data remotely for the dwelling unit occupant and be capable of providing daily data with electronic data storage and reporting capability that can produce reports for daily, monthly, and yearly water consumption. (Fire sprinkler systems are not required to be metered).</p>	
TG Reason:	802.11 is mandatory and covers pools and spas.	

PC089	ID 8312	802.4 Showerheads
Submitter:	Pranav Phatak, Self	
Comment:	<p>802.4 Showerheads. Showerheads are in accordance with the following:</p> <p>(1) Includes hand showers, body sprays, and rainfall panels. 2.0 GPM limit shall apply to cumulative flow of all devices located less than 96" in individual/two-person shower compartments or 35" apart in gang or group showers (as measured horizontally) apart. Showerheads shall comply with ASME A112.18.1/CSA B125.1 and shall comply with the performance criteria of the EPA WaterSense Specification for showerheads. Showerheads shall be served by an automatic compensating valve that complies with ASSE 1016/ASME A112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1 and is specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead.</p>	
Reason:	It does not seem worth including rainfall panels in here. The cumulative flow limit is 2.0 GPM and most of these rainfall heads are designed for 2.5+ gpm so it's not exactly a "water conserving" device.	
TG Recommendation:	Accept as Modified, 5-0-1	

TG Modification:	<p>802.4 Showerheads. Showerheads are in accordance with the following:</p> <p>(1) Includes hand showers, body sprays, and rainfall panels. A 2.0 GPM limit shall apply to cumulative flow of all devices located less than 96" in individual/two-person shower compartments or 35" apart in gang or group showers (as measured horizontally) apart. Showerheads shall comply with ASME A112.18.1/CSA B125.1 and shall comply with the performance criteria of the EPA WaterSense Specification for showerheads. Showerheads shall be served by an automatic compensating valve that complies with ASSE 1016/ASME A112.1016/CSA B125.16 or ASME A112.18.1/CSA B125.1 and is specifically designed to provide thermal shock and scald protection at the flow rate of the showerhead.</p>
TG Reason:	Entire section applies to showerheads so avoid confusion by eliminating individual devices and trade names.

PC090	ID 8419	802.4 Showerheads
Submitter:	Nate Steeber, self	
Comment:	Includes hand showers, body sprays, and rainfall panels. 2.0 GPM limit shall apply to cumulative flow of all devices located less than 96" <u>apart</u> in individual/two-person shower compartments or 35" apart in gang or group showers (as measured horizontally) apart .	
Reason:	There appears to be a missing word after 96" that could make the statement mean something completely different.	
TG Recommendation:	Accept, 4-0-1	
TG Modification:		
TG Reason:		

PC091	ID 8407	802.5 Faucets
Submitter:	Pranav Phatak, Self	
Comment:	<p>802.5.1 Install water-efficient lavatory faucets with flow rates not more than 1.5 gpm (5.68 L/m), tested in compliance with ASME A112.18.1/CSA B125.1 and complying with the performance criteria of the EPA WaterSense High-Efficiency Lavatory Faucet Specification:</p> <p>(1) Flow rate = 1.5 gpm [Faucets in all residential bathrooms are in compliance].....1 [3 max] [In multifamily buildings, the average number of bathrooms per unit may be used as the number of points awarded for this practice, rounded to the nearest whole number.]</p> <p>(2) Flow rate = 1.2 gpm [Faucets in all residential bathrooms are in compliance]..... 2 [6 max] [In multifamily buildings, the average number may be used as the number of points awarded for this practice, rounded to the nearest whole number.]</p> <p>(3) Flow rate = 1.5 gpm for all lavatory faucets in the dwelling unit(s) or sleeping unit(s) 6 Additional</p> <p>(4) Flow rate = 1.5 gpm for all lavatory faucets in the dwelling unit(s) or sleeping unit(s), and not less than one bathroom has faucet(s) with flow rate(s) = 1.2 gpm8 additional</p> <p>(5) Flow rate = 1.2 gpm for all lavatory faucets in the dwelling unit(s) or sleeping unit(s)12 additional</p>	

Reason:	Under 802.5.1, option (3), option (4) and option (5) apply to only multifamily buildings and receive way more points than option (1) and option (2) - which are applicable to both single and multifamily homes.
TG Recommendation:	Accept, 5-0-1
TG Modification:	
TG Reason:	

PC092	ID 8273	802.6 Water closets and urinals
Submitter:	Cindy Wasser, Home Innovation	
Comment:	Water closets that have an effective flush volume between <u>and including</u> 0.9 and 1.2 gallons. [Points awarded per toilet. In multifamily buildings, the average of the points assigned to individual dwelling units or sleeping units may be used as the number of points awarded for this practice, rounded to the nearest whole number.]	
Reason:	Was it the TG's intention that points under 802.6(4a) would be available only when the flush volume is between 0.9 and 1.2? Should points be available for toilets that are exactly 0.9 or 1.2 GPF? Many toilets available on the market have a listed flush volume of 1.2. Based on current wording, these would not be eligible for points.	
TG Recommendation:	Disapprove, 5-0-1	
TG Modification:		
TG Reason:	In favor of action on PC093.	

PC093	ID 8304	802.6 Water closets and urinals
Submitter:	Elysia Shanks, self	
Comment:	(b) Water closets have an effective flush volume of 0.8 gallons or less.X Additional	
Reason:	Additional point value not provided for this sub-practice.	
TG Recommendation:	Accept as Modified, 5-0-1	
TG Modification:	<p>Modify the language of the entire section.</p> <p>802.6 Water closets and urinals. Water closets and urinals are in accordance with the following:</p> <p>Points awarded for § 802.6(2) or § 802.6(3), not both.</p> <p>(1) Gold and Emerald levels: All water closets and urinals are in accordance with § 802.6. Mandatory</p> <p>(2) A water closet is installed with an effective flush volume of 1.28 gallons (4.85 L) or less in accordance with ASME A112.19.2/CSA B45.1 or ASME A112.19.14 as applicable. Tank-type water closets shall be in accordance with the performance criteria of the EPA WaterSense Specification for Tank-Type Toilets.</p> <p>[Points awarded per fixture. In multifamily buildings, the average of the points assigned to individual dwelling units or sleeping units may be used as the number of points awarded for this practice, rounded to the nearest whole number.] 4 [12 max]</p>	

	<p>(3) All water closets are in accordance with § 802.6(2). 17</p> <p>(4) All water closets are in accordance with § 802.6(2) and one or more of the following are installed <u>met</u>:</p> <p>(a)* Water closets that have an effective flush volume between <u>and including</u> 0.9 and 1.2 gallons. [Points awarded per toilet. In multifamily buildings, the average of the points assigned to individual dwelling units or sleeping units may be used as the number of points awarded for this practice, rounded to the nearest whole number.] 2 Additional {6 Add'l max}</p> <p>(b)* Water closets have an effective flush volume of <u>less than 0.9 gallons</u>. 0.8 gallons or less. [Points awarded per toilet. In multifamily buildings, the average of the points assigned to individual dwelling units or sleeping units may be used as the number of points awarded for this practice, rounded to the nearest whole number.] 4 additional</p> <p>* Select (a) or (b) , not both.</p> <p>(c) One or more urinals with a flush volume of 0.5 gallons (1.9L) or less when tested in accordance with ASME A112.19.2/CSA B45.1. 2 Additional</p> <p>(d) One or more composting or non-flushing toilets or non-flushing urinals. Non-flushing toilets and urinals shall be tested in accordance with ASME A112.19.2/CSA B45.1. 12 Additional</p> <p>_____</p> <p>Add the following to Chapter 2: Definitions. Effective flush volume: The flush volume when tested is in accordance with ASME A112.19.2: For single flush toilets, it is the volume of water used for one flush. For dual flush, it is the average volume of water for two reduced flushes and one full flush.</p>
TG Reason:	The task group has identified shortfall of points for item four (a) and (b) and clarified the option language.

PC094	ID 8420	802.6 Water closets and urinals
Submitter:	Nate Steeber, self	
Comment:	suggested at 2 points?	
Reason:	There is a missing point value for item 802.6(4)(b)	
TG Recommendation:	Disapprove, 5-0-1	
TG Modification:		
TG Reason:	In favor of action on PC093.	

PC095	ID 8406	SECTION 8 - Overall
Submitter:	Pranav Phatak, Self	
Comment:	<p>Under Chapter 8 of 2024 NGBS, a building has two pathways for achieving certification: Prescriptive Path or Performance Path (based on the Water Rating Index methodology in Appendix D). The HI team performed an in-depth analysis to identify whether the same home scored under both paths would earn the same certification level. Our conclusions:</p> <ul style="list-style-type: none"> • Outdoor water use per unit or per occupant –The WRI calculates outdoor water demand of irrigated areas and pools, spas, and fountains. The outdoor water total for a Single-family home and a Multifamily building having equal landscape area is equal. Outdoor water demand is not adjusted based on occupancy. We ask the Task Group to consider dividing outdoor water use by number of units or number of occupants. Alternatively, a “size adjustment factor” could be applied based on the building type. • Penalty based on location –The reference homes located in a dry climate zone were able to achieve a low WRI score more easily than similar homes in the wet climate zone. This difference is based on how baseline outdoor water was calculated: The outdoor baseline calculation depends on the evapotranspiration values and the required watering months of the location. If the watering months are more (between 1 to 12), the outdoor baseline will be higher. For example, a single-family reference home has an outdoor baseline of 382,969 gal in a dry climate like Albuquerque NM (having six watering months: Mar to Aug) but the exact same reference home in high rainfall climate like Doral FL (having all twelve watering months) has an outdoor baseline of 518,885 gal. We ask the task group to recheck these watering month requirements for different locations. • Prescriptive path points for indoor water – It is relatively easy for low efficiency reference homes to achieve a silver level based solely on indoor water use practices within the prescriptive path. On the contrary, the same reference homes modeled using WRI achieve a bronze level or do not achieve any certification level (WRI score > 70). We recommend that the Prescriptive Path point allocations be revisited to raise the stringency, making it more comparable to the Performance Path. • No landscaping vs no irrigation - If a building does not have any landscaping or irrigation, it is not eligible to receive points under 802.6 Irrigation Systems. On the other hand, a building with landscaping but no irrigation systems installed (hand watering or similar) acquires 15 points under 802.6.4(2) even though it realistically consumes much more water than the building with no landscaping. Should there be an additional practice that under 802.6 those awards points for no landscaping (and no irrigation)? • Irrigation efficiency table – After modeling close to fifty reference homes using the WRI methodology, it seems that the Hand Irrigation method (?=1) always receives a higher WRI score compared to other methods irrespective of lot size and location. Tied with Hand Irrigation are Flood and Direct Injection methods having the same efficiencies (?=1). We ask the Task Group to revisit the values in Table D101.9.4(3) Irrigation Efficiency and update based on available research on irrigation efficiency. 	
Reason:	The HI team performed an in-depth analysis to identify whether the same home scored under both paths would earn the same certification level and got inconsistent results.	
Substantiating Documents	Yes	
TG Recommendation:	Accept as Modified, 8-0-0	
TG Modification:	<p>Modify 2024 NGBS draft 1 as follows:</p> <p>D101.9 Outdoor Calculations. The annual outdoor water use shall be calculated as follows:</p> $\text{OutdoorUse} = (\text{LandscapeWaterUse} + \text{NonLandscapeWaterUse}) / (\text{Number of dwelling units})$ $\text{OutdoorBaseline}(\text{month}) = (\text{Evapotranspiration}(\text{month}) * \text{LandscapeWaterArea}(\text{total}) * 0.623 \text{ (gallons/sq ft of 1 in of rain)}) / (\text{Number of dwelling units})$ <p>where LandscapeWaterArea(total) is the total of all the areas that are planted, irrigated, hand-watered or have</p>	

a water feature like a pool.

OutdoorBaseline: baseline outdoor water demand based on outdoor area and evapotranspiration rates.

Evapotranspiration: sum of evaporation from soil evaporation from the capillary fringe of the groundwater table, and evaporation from water bodies on land, as well as transpiration from plants.

801.1.1 Minimum prescriptive path requirements. A building complying with § 802 (Prescriptive Path) shall obtain not less than 8 points in practices 802.4 through 802.6 and not less than 4 points in practice 802.7.

802 Prescriptive Path.

Update points for the practices below:

802.2 Water conserving appliances

- (2) clothes washer, or ~~6~~ **13**
- (3) clothes washer with an Integrated Water Factor of 3.8 or less..... ~~12~~ **18**

802.4(1):

[4 points awarded for first compartment; 1 point for each additional compartment in dwelling] ~~2-4~~ **7** [7 max]

802.5.4(2):

[Points awarded per fixture. In multifamily buildings, the average of the points assigned to individual dwelling units or sleeping units may be used as the number of points awarded for this practice, rounded to the nearest whole number.].....~~2-4~~ **12** [12 max]

- 802.6 (3) All water closets are in accordance with § 802.6(2).= ~~8~~ **17**

802.7.4 The irrigation system(s) is controlled by a smart controller or no irrigation is installed.

[Points are not additive.]

- (1) Irrigation controllers shall be in accordance with the performance criteria of the EPA WaterSense program 10
- (2) No irrigation is installed and a landscape plan is developed in accordance with § 503.5, as applicable. 15

(3) No irrigation is installed and there is plan of no landscaping 15

Appendix D:

TABLE D101.9.4(3)

IRRIGATION EFFICIENCY

Only hand irrigation	1 70
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	Drip – standard	.7 .90
	Drip – micro	.8
	Drip – press-comp	.9
	Fixed spray (<u>from below – ground emitters</u>)	.65
	Micro spray (<u>at base of trees and shrubs</u>)	.7 .85
	Rotor	.7
	Rotary nozzle	.75
	Spray	.55
	Flood	1 .50
	Direct injection/root	1

TG Reason:

Outdoor water use per unit or per occupant: Dividing the outdoor water by number of dwelling units to adjust calculation based on occupancy.

Penalty based on location: Task group acknowledges that only Florida is producing unexpected results within the WRI tool and does not think a location based point penalty is necessary to address the anomaly.

Prescriptive path points for indoor water: This requires points to be claimed for both indoor and outdoor water use reduction. The minimum number of points for each does not meet the minimum number of points required for bronze, thus providing projects flexibility in points and practices that best suit the specific project goals.

No landscaping vs no irrigation: Points incentive for no irrigation installed and no plan of landscaping.

Irrigation efficiency table: Old values weren't sourced. New values have data to back it up.

Sources:

American Society of Agricultural and Biological Engineers. Chapter 5 Irrigation System Performance. <https://www.asabe.org/Portals/0/aPubs/Books/ISM/ISM5.pdf>

Eisenhauser, D. E., Martin, D. L., Heeren, D. M., Hoffman, G. J. (2021). Irrigation Systems Management. American Society of Agricultural and Biological Engineers.

Howell, T. A. (2003, January). Irrigation Efficiency. United States Department of Agriculture (USDA). https://www.researchgate.net/profile/Terry-Howell/publication/43256707_Irrigation_Efficiency/links/566ec91c08aea0892c52a91c/Irrigation-Efficiency.pdf.

Kranz, B. Irrigation Efficiencies. University of Nebraska Lincoln Extension. <https://passel2-stage.unl.edu/view/lesson/bda727eb8a5a/8#:~:>

text=Irrigation%20efficiency%20refers%20to%20the,rates%2C%20weather%20and%20soil%20conditions

Texas A&M University. Typical Overall On-Farm Efficiencies for Various Types of Irrigation Systems.
<https://texaset.tamu.edu/>.

TWL Irrigation. (2023, March 9). Irrigation Efficiency – Definitions, Types, Importance & Formula.
<https://www.twl-irrigation.com/irrigation-efficiency/>

Section 9: Indoor Environmental Quality

PC096	ID 8357	901 POLLUTANT SOURCE CONTROL		
Submitter:	Doug Mazeffa, Associated Materials			
Comment:	<p>Throughout the standard, the CDPH test method is referenced, but it points to an outdated version (v1.1). This should be updated to CDPH v1.2.</p> <p>It is also unclear why the Green Seal program is referenced regarding VOC emissions testing as it is not a regulatory body, nor is the organization able to perform the VOC Gas Chromatograph emissions tests described by CDPH v1.2 (versus programs like UL's GREENGUARD for example). Green Seal does assess a variety of sustainability attributes, so it would better fit in a different section (like Sustainable Products) where the criteria are a better fit and the eco-label is not simply relying on other labs/certification bodies performing the actual emissions test of the referenced standard.</p>			
Reason:	Current language references a significantly out of date version of the CDPH test and includes a reference for an eco-label that is unable to perform the CDPH test in-house.			
TG Recommendation:	Accept as Modified, 8-0-0			
TG Modification:	<p><u>APPENDIX B</u></p> <table border="1"> <tr> <td>901.6 Cabinets</td> <td><u>EC118 - The ICC-ES Environmental Criteria for Safe and Sustainable Cabinetry (SASC)</u></td> </tr> </table> <p>901.10.1 Site-applied interior architectural coatings, which are inside the water proofing envelope, are in accordance with one or more of the following:..... 5</p> <p>(1) Zero VOC as determined by EPA Method 24 (VOC content is below the detection limit for the method)</p> <p>(2) GreenSeal GS 11</p> <p>(3) CARB Suggested Control Measure for Architectural Coatings (see Table 901.910.1)</p> <p><u>901.11</u></p> <p>(1) The emission levels are in accordance with CDPH/EHLB Standard Method v1.4<u>2</u>. Emission levels are determined by a laboratory accredited to ISO/IEC 17025 and the CDPH/EHLB Standard Method v1.4<u>2</u> is in its scope of accreditation. The product is certified by a third-party program accredited to ISO 17065, such as, but not limited to, those found in Appendix B..... 8</p> <p>(2) GreenSeal GS 365</p> <p>(3) SCAQMD Rule 1168 in accordance with Table 901.1011(3), excluding products that are sold in 16-ounce containers or less and are regulated by the California Air Resources Board (CARB) Consumer Products Regulations..... 5</p>		901.6 Cabinets	<u>EC118 - The ICC-ES Environmental Criteria for Safe and Sustainable Cabinetry (SASC)</u>
901.6 Cabinets	<u>EC118 - The ICC-ES Environmental Criteria for Safe and Sustainable Cabinetry (SASC)</u>			
TG Reason:	Legislative format used. GreenSeal is redundant to CARB.			

PC097	ID 8421	901.3 All electric building
Submitter:	Nate Steeber, self	
Comment:	10 points	
Reason:	If electrification is really that important, it should be worth more than 1 point.	

TG Recommendation:	Accept as Modified, 9-0-1
TG Modification:	901.3 All electric building. Building is all-electric or has no combustion appliances, equipment, or fixtures inside the building thermal envelope or pressure boundary..... 1-6
TG Reason:	6 points seemed more in line with other analogous practices in ch 9.

PC098 ID 8305	901.16 Non-smoking areas
Submitter:	Elysia Shanks, self
Comment:	(3) The entire multifamily building and site is designated as non-smoking with posted signage and restrictions in the leases. X
Reason:	Points associated with this practice are not included.
TG Recommendation:	Disapprove, 12-0-0
TG Modification:	
TG Reason:	Based on action on PC099.

PC099 ID 8422	901.16 Non-smoking areas
Submitter:	Nate Steeber, self
Comment:	1 point
Reason:	There is a missing point value for 901.16(3)
TG Recommendation:	Accept as Modified, 11-0-0
TG Modification:	901.15 16 Non-smoking areas. Environmental tobacco <u>and other</u> smoke <u>from controlled-substances</u> is minimized by one or more of the following: (1) All interior common areas of a multifamily building are designated as non-smoking areas with posted signage.1 (2) Exterior smoking areas of a multifamily building are designated with posted signage and located a minimum of not less than 25 ft from entries, outdoor air intakes, and operable windows.....1 (3) The entire multifamily building and site is designated as non-smoking with posted signage and restrictions in the leases.....1
TG Reason:	Editing language so that measure applies to building types other than multifamily. Added ‘controlled substances’ language to cover cannabis smoking which is increasingly being legalized. Other multifamily credits in NGBS standard should be similarly edited to allow consistency.

PC100 ID 8279	902.2 Building ventilation systems
Submitter:	Philip LaRocque, self
Comment:	902.2.2 For single-family houses and multifamily structures of three (3) stories or fewer above grade <u>where ducts are in unconditioned spaces</u> , ventilation airflow is tested and verified to provide the minimum ventilation flow rate to achieve the design fan airflow in accordance with ANSI/RESNET/ICC 380 and § 902.2.1. 4Mandatory
Reason:	This proposal conforms with my proposal for 701.4.2.1 to delete duct testing in conditioned space and uses the same rationale.
TG Recommendation:	Disapprove,
TG Modification:	

TG Reason:	Submitter deemed this item to be unnecessary in the TG meeting.
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PC101	ID 8289	902.2 Building ventilation systems
Submitter:	Cindy Wasser, Home Innovation	
Comment:	<p>902.2.3 MERV filters 8-12 are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used. Mandatory</p> <p>902.2.3 4 MERV filters 13-<u>15</u> are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used. 2</p> <p>902.2.4 5 MERV filters 16 or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used. 3</p>	
Reason:	Existing language is limiting because single rating levels are mentioned, not a range.	
TG Recommendation:	Accept as Modified, 12-0-0	
TG Modification:	<p>902.2.3 MERV filters 8 or <u>greater-12</u> are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used. Mandatory</p> <p>902.2.3 4 MERV filters 13-<u>15</u> are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used. 2</p> <p>902.2.4 5 MERV filters 16 or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used. 3</p>	
TG Reason:	Editorial.	

PC102	ID 8410	902.2 Building ventilation systems
Submitter:	Jamie Carr, Self	
Comment:	Consider deleting year of standard from 902.2.1 unless it is different from the standard referenced by the NGBS standard as a whole.	
Reason:	Is there a reason the years of the ASHRAE, IMC, and IRC are included in 902.2.1 but not 902.1.1. Generally, NGBS policy is not to include the year of the standard unless it differs from the version of the standard referenced for the NGBS standard as a whole.	
TG Recommendation:	Disapprove, 9-0-1	
TG Modification:		
TG Reason:	Years were included in ICC references because the standards referenced are of a version different than whats in ch 14 reference table. ASHRAE reference was included for consistency.	

PC103	ID 8411	902.2 Building ventilation systems
Submitter:	Jamie Carr, Self	
Comment:	Consider clarifying the "as applicable" language in 902.2.1.	

Reason:	Does the "as applicable" language in 902.2.1 mean that ASHRAE 62.2-2019 could not be used for buildings over 3 stories?
TG Recommendation:	Disapprove, 10-0-0
TG Modification:	
TG Reason:	Yes, 62.2-2019 could be used for buildings over 3 stories.

PC104	ID 8412	902.2 Building ventilation systems
Submitter:	Jamie Carr, Self	
Comment:	902.2.2. - Delete number 4 before the word mandatory.	
Reason:	Appears to be a typo at 902.2.2. Number 4 before mandatory should be deleted.	
TG Recommendation:	Disapprove, 12-0-0	
TG Modification:		
TG Reason:	Points are struck through in the draft.	

PC105	ID 8424	902.2 Building ventilation systems
Submitter:	Nate Steeber, self	
Comment:	<p>902.2.3 MERV filters 8 are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.....Mandatory</p> <p><u>902.2.4 MERV filters 10 are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.....1</u></p> <p>902.2.45 MERV filters 13 are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.....2</p> <p>902.2.56 MERV filters 16 or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.....3</p> <p>902.2.67 Enhanced air filtration. Meet all of the following...</p>	
Reason:	902.2.4 Jumping from MERV 8 as a mandatory to MERV 13 for 2 points is a big jump without an intermediate option	
TG Recommendation:	Accept as Modified, 10-0-0	
TG Modification:	<p>902.2.3 MERV filters 8 <u>or greater</u> are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.....Mandatory</p> <p><u>902.2.4 MERV filters 10-12 are installed on central forced air systems and are accessible. Designer or installer</u></p>	

	<p>is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.....1</p> <p>902.2.45 MERV filters 13-15 are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.....2</p> <p>902.2.56 MERV filters 16 or greater are installed on central forced air systems and are accessible. Designer or installer is to verify that the HVAC equipment is able to accommodate the greater pressure drop of the filter used.....3</p> <p>902.2.67 Enhanced air filtration. Meet all of the following...</p>
TG Reason:	To offer more flexibility for project teams.

PC106	ID 8281	902.3 Radon reduction measures
Submitter:	Philip LaRocque, self	
Comment:	Exceptions: 1) Testing is not mandatory <u>for any detached or attached single-family construction</u> where the authority having jurisdiction has defined the radon zone as Zone 2 or 3; and 2) Testing is not mandatory where the occupied space is located above an unenclosed open space or concrete podiums.	
Reason:	<p>the radon testing TG proposal i am changing is not in the 2021 Code that is supposedly the reason for additional testing for ducts and blower doors. This is inconsistent with the Consensus committee desire to conform to the 2021 Code. in addition my change only requires testing in SF construction in Zone 1. While the EPA, in their rationale for proposing the radon testing to all Zone 2 homes, they make a simplistic comment that radon can occur in all Zones. If that is the case where is their data illustrating the volume of radon incidents and illnesses in Zone 2 (and 3) compared to Zone 1? EPA also states that they never intended to have their map used to determine where to test for radon! Then why publish the map as an official EPA document? More data is needed before this dramatic intrusion and added cost on SF builds is mandated for the 2024 NGBS. While my change only affects SF the same logic applies to MF but MF has the authority to do sample testing. Sf does not have this sampling option for obvious reasons. Maybe someone can craft a sampling protocol for SF builders who are trying to NGBS certify a certain volume level of homes? Some argue that the SF testing requirement is a minimal cost- They ignore the reality that SF builders measure the impact of every added dollar in cost and regulatory burden (the testing protocol is seen by some of my SF builder clients as excessive and a reason to walk away from NGBS certification going forward) as they decide to pursue or not pursue NGBS. I am not sharing my radon test cost realities here dur to their proprietary nature.Our NGBS SF market penetration is embarrassingly and this TG proposal will unfortunately keep this fact going.</p>	
TG Recommendation:	Accept as Modified, 7-0-3	
TG Modification:	<p>902.3.2 Radon testing. Radon testing is mandatory for Zone 1 and Zone 2.</p> <p>Exceptions: 1) Testing is not mandatory where the authority having jurisdiction has defined the radon zone as Zone <u>2 and 3</u>; and 2) testing is not mandatory where the occupied space is located above an unenclosed open space or concrete podiums.</p>	
TG Reason:	To provide text in legislative format that meets the intent of proposal.	

PC107	ID 8290	902.3 Radon reduction measures
Submitter:	Cindy Wasser, Home Innovation	
Comment:	<p>Under single-family testing section:</p> <p>(j)... Where the radon test result is 4 pCi/L or greater, the fan for the radon vent pipe shall be installed. <u>No</u></p>	

	<p><u>retesting is required.</u></p> <p>Under multifamily testing section:</p> <p>(i) Where <u>any</u> the radon test result is 4 pCi/L or greater, the fan for the radon vent pipe shall be installed. <u>No retesting is required.</u></p>
Reason:	<p>NGBS Green Partners often ask if retesting is required if a test result fails. Add clarifying language to 902.3.2(1)(j) and 902.3.2(2)(i). Also specify that the fan should be added when ANY radon test conducted in a multifamily building does not pass.</p>
TG Recommendation:	<p>Accept as Modified, 5-1-2</p>
TG Modification:	<p>Under single-family testing section:</p> <p>(j)... Where the radon test result is 4 pCi/L or greater, the fan for the radon vent pipe shall be installed. <u>The system shall be modified and retested until the test result is less than 4 pCi/L.</u></p> <p>Under multifamily testing section:</p> <p>(i) Where <u>any</u> the radon test result is 4 pCi/L or greater, the fan for the radon vent pipe shall be installed. <u>The system shall be modified and retested until the test result is less than 4 pCi/L.</u></p>
TG Reason:	<p>Retesting is required to demonstrate EPA action level.</p>

PC108	ID 8345	902.3 Radon reduction measures
Submitter:	<p>Abhishek Lal, Meridian Consulting, LLC</p>	
Comment:	<p>(No change to 902.3 text prior to the below)</p> <p>(2) Multifamily testing specifications. Multifamily testing is performed as specified in (a) through (i)</p> <p>(a) For ground-contact dwelling or sleeping units, a test is performed in minimum of not less than 50% of all ground-contact dwelling or sleeping units on the lowest level that serves or could serve as a living area, sleeping quarters, office, playroom or otherwise be occupied for residential use at some time in the future. Samples shall be representative across the footprint</p> <p>of all ground-contact dwelling or sleeping units of the building.</p> <p>(b) For non-residential ground-contact locations, a test is performed for a minimum of not less than 25% of all ground-contact rooms, offices, classrooms, and other general use areas that are occupied or intended to be occupied. Samples shall be representative across the footprint of the non-residential ground contact locations of building.</p> <p>(c) On each upper floor, testing is performed in at least one, and not less than 10%, of all dwellings and nonresidential rooms that are occupied or intended to be occupied. These measurements shall be in addition to tests performed in ground-contact locations and rooms or dwellings that adjoin immediately above untested ground-contact locations.</p> <p>(d) Testing is not performed in hallways, closets, bathroom, or shower areas unless they are open to other rooms that are occupied for other purposes.</p> <p>(e) Testing is performed with a commercially available test kit or with a continuous radon monitor that can be calibrated. Testing shall be in accordance with the testing device manufacturer's instructions.</p> <p>(f) Testing shall be performed by the builder, a registered design professional, or an approved third party.</p> <p>(g) Testing shall extend at least not less than 48 hours or to the minimum specified by the manufacturer, whichever is longer.</p>	

	(h) Written radon test results shall be provided by the test lab or testing party. Written test results shall be included with construction documents. (i) Where the radon test result is 4 pCi/L or greater, the fan for the radon vent pipe shall be installed; <u>or additional permanent measures shall be provided that result in reduced radon levels below 4 pCi/L.</u>
Reason:	Section 902.3.2 expands mandatory testing and remediation to Zone 2. However, since mandatory measures are not required in 902.3 for Zone 2 post-construction prescriptive criteria may not be feasible for Zone 2 projects.
TG Recommendation:	Disapprove,
TG Modification:	
TG Reason:	Based on action on PC106.

PC109	ID 8358	904.5 Indoor Air Quality (IAQ) remediation
Submitter:	John McKeon, iAIR Institute	
Comment:	<p>904.4 Indoor Air Quality (IAQ) monitoring</p> <p>904.4.1 Humidity monitoring. A humidity monitoring system is installed with a mobile base unit that displays readings of temperature and relative humidity. The system has not less than two remote sensor units. One remote sensor unit is placed permanently inside the conditioned space in a central location, excluding attachment to exterior walls, and another remote sensor unit is placed permanently outside of the conditioned space. 2</p> <p>904.4.2 Airborne pollutant monitoring. Indoor air quality sensors designed for continuous monitoring of PM2.5, TVOC, and CO2 are installed. Instantaneous and trending data are accessible via website or mobile application in near-real-time.</p> <p>(1) Sensors are installed within the kitchen area of each dwelling unit. 4</p> <p>(2) Sensors are installed within each bedroom. 4</p> <p>(3) Sensors are installed within multifamily amenity areas. Not less than one sensor is installed per 5,000 ft2 of common area space. 2</p> <p>(4) Installed devices are also capable of monitoring and providing trending data for at least not less than two of the following: air pressure, radon, CO, NO2, Methane, Ozone, Formaldehyde. 1 Additional</p> <p>904.5 Indoor Air Quality (IAQ) remediation. A ventilation device is installed that automatically removes, inhibits, or reduces PM2.5, TVOC and CO2 within the conditioned space when identified by installed devices per in accordance with § 904.4.2. 8</p> <p><u>904.5.1 Humidity remediation. A humidity device is installed that automatically alters the relative humidity by humidifying or dehumidifying the conditioned space when identified by installed devices per in accordance with § 904.4.1. 8</u></p>	
Reason:	In the case of Airborne pollutant monitoring (currently 904.4.2) there is a provision to monitor PM2.5, TVOC, and CO2, supplemented by a provision at 904.5 where additional points are awarded if a device is installed that automatically removes PM2.5, TVOC and CO2 when levels are high. In the case of 904.4.1, in relation to humidity, there are points awarded for a sensor to identify high and low humidity, but no such additional points awarded for any automatic remediation (however there are points awarded for presence of a dehumidifier for certain climate zones, at 903.3). The inclusion of points awarded for automatic remediation of relative humidity would reflect the positive impact this intervention could have on indoor air quality.	
TG Recommendation:	Accept as Modified, 5-0-1	
TG Modification:	904.6 Humidity remediation. A humidity control device is installed that automatically alters the relative	

	<p>humidity by humidifying or dehumidifying the conditioned space when identified by installed devices in accordance with § 904.4.1.</p> <p>..... 8</p>
TG Reason:	Editorial modifications for clarity.

Section 10: Operation, Maintenance, and Building Owner Education

PC110	ID 8331	1001.1 Homeowner's manual
Submitter:	Michelle Foster, NGBS Green	
Comment:	<u>(27) For homes in areas designated as a wildland – urban interface or other wildfire-prone areas, information is included on how defensible space is maintained to help the home be resilient to wildfires.</u>	
Reason:	Important to add information for homeowners as to how to maintain defensible space in wildfire areas if they claim those points from the practice on defensible spaces.	
TG Recommendation:	Accept as Modified, 3-0-0	
TG Modification:	<u>(27) For homes in areas designated as a wildland – urban interface or other wildfire-prone areas, information is included on how defensible space is maintained to help the home be resilient to wildfires.</u> Also update the International Wildland Interface Code to 2021 version in Chapter 14.	
TG Reason:	The TG believes it is important to update to most recent version.	

PC111	ID 8332	1002.3 Maintenance manual
Submitter:	Michelle Foster, NGBS Green	
Comment:	<u>(14) A maintenance plan to preserve the defensible space for wildfire resilience (only allowable when points for 505.12 Wildfire resilience are claimed.)</u>	
Reason:	Important to add information as to how to protect building from wildfires if they have implemented a defensible space from previous chapters.	
TG Recommendation:	Accept, 3-0-0	
TG Modification:		
TG Reason:		

PC112	ID 8369	1005.3 Health and Wellness Professional
Submitter:	John McKeon, iAIR Institute	
Comment:	<p>1005.3 Health and Wellness Professional. At least one member of the project team is a qualified professional in health and wellness in residential design and construction and will <u>either (a) conduct training to at least one of the following groups (one point per item), or (b) ensure that at least one of the following groups complete a recognised equivalent online or in-person training course (one point per item):</u></p> <p>(1) Other project team members with regards to resource, product, and material selections, practices and uses in the project.....</p> <p>(2) Building operations and maintenance staff.</p> <p>(3) Building occupants or homeowners.</p> <p><u>Definition: A qualified professional in health and wellness in residential design and construction has completed an instructional and knowledge-tested curriculum with modules such as, but not limited to, the health impact of indoor air pollutants, health-conscious design of the built environment and regulations related to building and maintaining healthier homes.</u></p> <p><u>Approved recognised equivalent online or in-person training courses should be accredited by a relevant body such as, but not limited to, NAHB, AIA, ACCE and EEBA ,and be deemed eligible for no less than 6 Learning Unit/Health, Safety and Welfare continuing education credits, or equivalent.</u></p>	
Reason:	Additional clarity is required to identify what qualifies someone as a health and wellness professional in residential design and construction. It is important that such a qualification should include a knowledge-tested	

	curriculum with modules on understanding indoor air quality, source control and management approaches for common indoor pollutants, health-conscious design of the built environment and building management and maintenance for occupant health. A recognised equivalent online or in-person training course should be reviewed by the NGBS task group, and approved based on relevant course material and sufficient duration, or accredited by an appropriate body such as NAHB, AIA, ACCE and EEBA for no less than 6 LUs/HSW continuing education credits.
TG Recommendation:	Accept as Modified, 4-0-0
TG Modification:	<p>Accept as modified:</p> <p>or (b) <u>it is ensured</u> ensure that at least one of the following groups complete a recognized equivalent online or in-person training course (one point per item):</p> <p>STRIKE THE DEFINITION PROPOSED:</p> <p>Definition: A qualified professional in health and wellness in residential design and construction has completed an instructional and knowledge tested curriculum with modules such as, but not limited to, the health impact of indoor air pollutants, health-conscious design of the built environment and regulations related to building and maintaining healthier homes.</p> <p>Approved recognised equivalent online or in-person training courses should be accredited by a relevant body such as, but not limited to, NAHB, AIA, ACCE and EEBA ,and be deemed eligible for no less than 6 Learning Unit/Health, Safety and Welfare continuing education credits, or equivalent.</p>
TG Reason:	The TG believed that the NGBS should not be so restrictive in its definition and that the certification agency should be allowed to determine if someone was a qualified professional. This is consistent with the several other instances that “qualified professional” appears in the NGBS.

Section 11: Remodeling

PC113	ID 8288	11.500 LOT DESIGN, PREPARATION, AND DEVELOPMENT
Submitter:	Cindy Wasser, Home Innovation	
Comment:	Section 11: <u>Existing Buildings Remodeling</u>	
Reason:	Chapter name and all references to this pathway should be renamed to match the change made in Section 3 Compliance Method.	
TG Recommendation:	Accept, 8-0-1	
TG Modification:		
TG Reason:		

PC114	ID 8333	11.500.0 Intent
Submitter:	Michelle Foster, NGBS Green	
Comment:	Chapter 11 - <u>Existing Buildings Remodeling</u>	
Reason:	The section number above is incorrect, but it forced me to select something. The Chapter name change was approved last cycle, this maybe editorial.	
TG Recommendation:	Disapprove, 8-0-1	
TG Modification:		
TG Reason:	Disapproved based on action for PC113.	

PC115	ID 8398	11.505.6 Multi-unit plug-in electric vehicle charging
Submitter:	Nate Steeber, self	
Comment:	<p>I believe the proposed changes below were recommended to TG5 from TG11</p> <p>Multi-unit plug-in electric vehicle charging. Plug-in electric vehicle <u>charging capability charger</u> is provided for 2%5% or more of parking stalls.</p> <p>[An additional 2 points can be earned for each percentage point above 2% 5% for a maximum of 10 points]</p> <p>If the language remains as "charger" and not "charging capability" then the consensus committee should consider removing 11.707.8 in its entirety.</p>	
Reason:	If the changes to 11.505.6 are accepted, they will essentially be the same as 11.707.8 except for awarded points and variations on language.	
TG Recommendation:	Accept as Modified, 6-0-1	
TG Modification:	<p>11.505.6.1 Multi-unit Multi-family residence plug-in electric vehicle charging. Plug-in electric vehicle charger <u>charging capability</u> is provided for not fewer than 2% or more of parking stalls. [An additional 2 4 points can be earned for each percentage point above 2% for a maximum of 10 20 points]4 [20 max]</p> <p>Fractional values shall be rounded up to the nearest whole number. Electrical capacity in main electric panels supports Level 2 charging (208/240V – up to 80 amps or in accordance with SAE J1772). Each stall is provided with conduit and wiring infrastructure from the electric panel to support Level 2 charging (208/240V – up to 80 amps or in accordance with SAE J1772) service to the designated stalls, and stalls are equipped with either Level 2 charging AC grounded outlets (208/240V – up to 80 amps or in accordance with SAE J1772) or Level 2 charging stations (208-240V – up to 80 amps or in accordance with SAE J1772) by a third-party charging</p>	

	<p>station.</p> <p>11.505.6.2 Multi-family residence plug-in electric vehicle charging capability. <u>Plug-in electric vehicle charging capability is provided for 2% or more of parking stalls. [An additional 2 points can be earned for each percentage point above 2% for a maximum of 10 points]..... 2 [10 max]</u></p> <p><i>Where points are awarded in § 11.505.6.1 or § 11.505.6.2, points shall not be awarded in § 11.707.8</i></p> <p><i>Add the following to Section 2</i></p> <p>ELECTRIC VEHICLE CHARGING CAPABILITY. A parking stall that is EV Capable or EV Ready as defined by the <u>National Electrical Code or by the authority having jurisdiction.</u></p>
TG Reason:	To clarify the language and encourage more participation by including options for both charger installation and charging capability.

PC116	ID 8413	11.505.6 Multi-unit plug-in electric vehicle charging
Submitter:	Nate Steeber, self	
Comment:	Revise the language to be consistent with the language approved by the CC.	
Reason:	According to the Public Proposals Report, P073 (ID 8087) appears to have been approved by the CC as "charging capability" but the redlined version indicates "charger"	
TG Recommendation:	Disapprove, 6-0-1	
TG Modification:		
TG Reason:	Disapproved based on action for PC115.	

PC117	ID 8399	11.505.7 Multi-unit residential CNG vehicle fueling
Submitter:	Nate Steeber, self	
Comment:	Remove 11.505.7 entirely since it is awarded points in 11.707.9	
Reason:	it's duplicated in chapter 11.7	
TG Recommendation:	Accept as Modified, 8-0-1	
TG Modification:	<i>Retain practice with the following edit:</i>	
	11.505.7 Multifamily Multi-unit residential CNG vehicle fueling	
TG Reason:	Multi-unit is confusing in context of charger provision. Change to “multifamily” clarifies practice availability.	

PC118	ID 8314	11.602.1 Moisture management - building envelope
Submitter:	Theresa A Weston, ABAA & RAINA	
Comment:	<p>11.602.1.13 Roof overhangs. Roof overhangs, in accordance with Table 11.602.1.13, are provided over not less than 90% of exterior walls area to protect the building envelope. 4</p> <p>Exception: Unconditioned or low energy buildings in tropical zone</p> <p>Exception: <u>Buildings with concrete or masonry exterior walls.</u></p>	

Reason:	This provision provides credit for overhangs which protect building walls from water damage which may result from rain exposure. The current exception seeks to exempt buildings in the tropical zone based on their low energy use. Tropical zones often have high rainfall. Moisture damage is not directly dependent on the energy use of the building. The exception is proposed to be replaced with an exception for concrete and masonry walls which have a higher water resistance. The proposed exception is pertinent to moisture performance of the building, while the exception it is replacing is not pertinent to moisture performance.
TG Recommendation:	Accept as Modified, 9-0-1
TG Modification:	STRIKE ALL EXCEPTIONS TO THE PRACTICE
TG Reason:	This is a points-based practice and therefore, the exception is not necessary.

PC119 ID 8425	11.602.1 Moisture management - building envelope
Submitter:	Nate Steeber, self
Comment:	recommend reverting to optional points.
Reason:	11.602.1.9 (2),(3),(4) Making these mandatory for existing buildings can create barriers for certification. While these items make sense to be mandatory for new construction projects, they are not always as feasible for existing buildings. **These were not discussed in TG11
TG Recommendation:	Accept as Modified, 9-0-1
TG Modification:	STRIKE "Mandatory" and reinstate point values (2 or 3 points per item as previously)
TG Reason:	The TG noted that even if windows are changed in an EB, the flashing practices could be very difficult to complete and it should not be mandatory but for points

PC120 ID 8307	11.602.2 Roof surfaces
Submitter:	Jonathan Humble, Cool Roof Rating Council
Comment:	<p>11.602.2 Roof surfaces. Not less than 90% of roof surfaces, not used for roof penetrations and associated equipment, on-site renewable energy systems such as photovoltaics or solar thermal energy collectors, or rooftop decks, amenities, and walkways, are constructed of one or more of the following:</p> <p>(1) An initial SRI of not less than 78 for low-sloped roof (a slope less than 2:12) and a minimum initial SRI of not less than 29 for a steep-sloped roof (a slope equal to or greater than 2:12). The SRI is calculated in accordance with ASTM E1980. <u>Roof products are rated and labeled in accordance with the CRRC-1 Program.</u></p> <p>(2) a vegetated roof system,</p> <p>(See related Section 602.2 code change proposal)</p>
Reason:	The reference to solar reflectance should be consistent throughout the future edition of the National Green Building Standard. Sections 602.2 and 11.602.2 below support this focus through each of their subpart #1 that requires roof products to be rated and labeled in accordance with the CRRC-1 Program. (See also related Section 602.2 code change)
TG Recommendation:	Accept as Modified, 6-0-1
TG Modification:	<p>11.602.2 Roof surfaces. Not less than 90% of roof surfaces, not used for roof penetrations and associated equipment, on-site renewable energy systems such as photovoltaics or solar thermal energy collectors, or rooftop decks, amenities, and walkways, are constructed of one or more of the following:</p> <p>(1) An initial SRI of not less than 78 for low-sloped roof (a slope less than 2:12) and a minimum initial SRI of not less than 29 for a steep-sloped roof (a slope equal to or greater than 2:12). The SRI is calculated in</p>

	accordance with ASTM E1980 OR roof products are rated and labeled in accordance with the CRRC-1 Program. (2) a vegetated roof system, (See related Section 602.2 code change proposal)
TG Reason:	This practice was also considered for TG 3 and 5. The TG notes that this practice should also be revised in a similar way in Chapter 6. The TG wants to make sure that the proposed change for this is consistent with PC76 and 77 which is for Chapter 7.

PC121	ID 8322	11.701.4.3 Insulation and air sealing
Submitter:	Theresa A Weston, ABAA & RAiNA	
Comment:	<p>11.701.4.3.2 Air barrier, air sealing, building envelope testing and insulation. For portions of the building envelope that are exposed or created during the remodel, building envelope air tightness and insulation installation is verified to be in accordance with this Section and § 11.701.4.3.2.1. Insulation installation other than Grade 1 is not permitted.....</p> <p>Mandatory</p> <p>(1) Testing. Conduct airtightness testing in accordance with procedures in ANSI/RESNET/ICC Std. 380, ASTM E779, ASTM 1827, or ASTM E3157 E3158 demonstrating compliance with the following leakage rates, as applicable to the type of home or dwelling unit.</p> <p>(a) For detached homes = 1,500 ft2 ,measured airtightness shall be no greater than 5 4.0 ACH50.</p> <p>(b) For all other homes or dwelling units, the weighted average of the unguarded compartmentalization testing shall be no greater than 0.30 0.27 CFM50 per square foot of dwelling unit enclosure area.</p>	
Reason:	Corrects the references standard (E3157 to E3158). Also updates the air leakage maximums to those in the 2024 IECC. The 2024 IECC will be published before the NGBS and much of its contents is currently publicly available as part of development documents. This proposal coordinates with my proposal to Section 701.4.3.2	
TG Recommendation:	Accept as Modified, 7-0-1	
TG Modification:	Remove the changes to the tightness requirements. Accept the reference correction.	
TG Reason:	The TG wants to correct the reference to E3158 but rejects the change to the tightness requirements.	

PC122	ID 8323	11.701.4.3 Insulation and air sealing
Submitter:	Theresa A Weston, ABAA & RAiNA	
Comment:	<p>Table 11.701.4.3.2(2)</p> <p>IECC-2021 Table R402.4.1.1 Air Barrier, Air Sealing and Insulation Installation <i>Modify the "General requirements - Air Barrier Criteria" cell as follows:</i> A continuous air barrier shall be installed in the building <i>thermal</i> envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed. <i>Modify the "rim joists - air barrier criteria" cell as follows:</i> Rim joists shall include the and an exterior air barrier.b The junctions of the rim board to the sill plate and the rim board and the subfloor shall be air sealed. <i>Modify footnote b as follows:</i> b. Air barrier and Insulation full enclosure <u>by an air barrier</u> is not required in unconditioned/ventilated attic spaces and at rim joists.</p>	
Reason:	This proposal has various corrections and revisions for clarity, including the updating of "building envelope" to the defined term "building thermal envelope". This coordinates with my proposal on Table 701.4.3.2(2)	
TG Recommendation:	Accept, 7-0-1	
TG Modification:		
TG Reason:	The TG accepted the changes but deemed them largely editorial.	

PC123	ID 8426	11.701.4.3 Insulation and air sealing
Submitter:	Nate Steeber, self	
Comment:	recommend removing any requirements for airtightness	
Reason:	The targets for air testing leakage are completely unrealistic. These targets are difficult even for new construction projects.	
TG Recommendation:	Accept as Modified, 8-0-1	
TG Modification:	<p>11.701.4.3.2 Air barrier, air sealing, building envelope testing and insulation. For portions of the building envelope that are exposed or created during the remodel, building envelope air tightness and insulation installation is verified to be in accordance with this Section and § 11.701.4.3.2.1. Insulation installation other than Grade 1 is not permitted.</p> <p>Mandatory</p> <p>(1) Testing. <u>Where more than 50% of the building envelope is exposed or created during the remodel, conduct airtightness testing in accordance with procedures in ANSI/RESNET/ICC Std. 380, ASTM E779, ASTM 1827, or ASTM E3158.</u></p> <p>(2) Gold or Emerald levels. <u>Demonstrate demonstrating compliance with one of the following air infiltration targets leakage rates in accordance with § 11.701.4.3.2 (1) as applicable to the type of home or dwelling unit. Projects with more than one dwelling unit are permitted to use a combination of these targets to demonstrate compliance.</u></p> <p>(a) <u>For detached homes $\geq 1,500$ ft², measured airtightness shall be no greater than 65 ACH50.</u></p> <p>(b) <u>For all other homes or dwelling units, the weighted average of the unguarded compartmentalization testing shall be no greater than 0.30 CFM50 per square foot of dwelling unit enclosure area.</u></p> <p>(c) <u>Twenty percent improvement of ACH50 or CFM50 per square foot compared to pre-remodeling tested conditions.</u></p> <p>(2)(3) Visual inspection. The air barrier and insulation items listed in Table 11.701.4.3.2(2) are field verified by visual inspection.</p>	
TG Reason:	The TG wrote specific language shown above that would make the testing mandatory for buildings substantially impacting the envelope and adding specific targets for the higher certification levels.	

PC124	ID 8324	11.703.2 Building envelope
Submitter:	Theresa A Weston, ABAA & RAINA	
Comment:	<p>Table 11.703.2.4(a) Building Envelope Leakage <i>Delete the points for 4 ACH50, as 4 ACH50 is the max air leakage limit in the 2024 IECC</i></p> <p>Table 11.703.2.4(b) Building Envelope Leakage <i>Delete the points for .0.28 ELR50, as 0.27 ELR50 is the max air leakage limit in the 2024 IECC</i></p>	
Reason:	Update tables to be consistent with IECC2024, Points should not be given to air leakage levels that are mandatory in the base energy code. This coordinates with my proposal for section 703.2.4	
TG Recommendation:	Disapprove, 6-1-1	
TG Modification:		
TG Reason:	This was submitted when the 2024 IECC was proposed as the baseline code and that changed since this was	

	submitted.
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PC125	ID 8376	11.703.4 Duct systems
Submitter:	Cindy Wasser, Home Innovation	
Comment:	Points not awarded if points are taken under § <u>11.706.6.2.3</u> . 11.705.6.2.3.	
Reason:	The footnote under Table 11.703.4.4 was not updated after the new 11.705 (Tropical Zone) pathway was added. References need to be updated to refer to the intended section - HVAC Duct Leakage Testing.	
TG Recommendation:	Accept as Modified, 6-0-1	
TG Modification:	Points not awarded if points are taken under § <u>11.706.6.2.3</u> . 11.705.6.2.3 .	
TG Reason:	Reformatted to reflect submitters intent.	

PC126	ID 8400	11.707.8 Electrical vehicle chargers
Submitter:	Nate Steeber, self	
Comment:	If section 11.505.6 is to be approved, then this section should be removed entirely. If section 11.505.6 is revised to be charging capability, then this section should remain.	
Reason:	Section 11.505.6 has proposed changes to award points for a vehicle charger instead of vehicle charger capability. This in essence makes 11.505.6 and 11.707.8 the same, except for awarded points and variations on language.	
TG Recommendation:	Accept as Modified, 8-0-1	
TG Modification:	<i>Retain language with the following edit:</i> 11.707.8 <u>Single-Family Residence</u> Electrical Vehicle Chargers...	
TG Reason:	Clarify that practice should only apply to SF homes	

PC127	ID 8401	11.707.9 CNG vehicle fueling station
Submitter:	Nate Steeber, self	
Comment:	If section 11.505.7 is not removed, then this section should be removed entirely. If section 11.505.6 is removed, then this section should remain. In my opinion, it makes more sense for 11.707.9 to stay, and 11.505.7 to be removed.	
Reason:	11.505.7 and 11.707.9 are the same, except for awarded points and variations on language.	
TG Recommendation:	Accept as Modified, 8-0-1	
TG Modification:	<i>Retain the practice with the following edit:</i> 11.707.9 <u>Single-Family Residence</u> CNG Vehicle Fueling Station...	
TG Reason:	Clarifies practice availability.	

PC128	ID 8423	11.902.1 Spot ventilation
Submitter:	Nate Steeber, self	
Comment:	Kitchen exhaust is in accordance with the specifications of at least one of the following as applicable:..... Mandatory 8	
Reason:	Making the kitchen ventilation a mandatory item in chapter 11 creates a barrier for existing building certification. There will be a drop if projects that will pursue other certifications. It's interesting that this was changed when it was not even discussed in TG11.	
TG Recommendation:	Accept as Modified, 8-0-1	
TG Modification:	Kitchen exhaust is in accordance with the specifications of at least one of the following as applicable:..... Mandatory 8	
TG Reason:	Re-formatted to reflect submitter's intent.	

PC129	ID 8418	11.902.2 Building ventilation systems
Submitter:	Kimberly Pelosi, MaGrann Associates	
Comment:	Regarding Section 11.902.1.1, item (3), we suggest kitchen exhaust requirements be amended to exclude International Mechanical Code as a compliance option, as this option permits a lack of ventilation in kitchens.	
Reason:	See Proposed Changes	
TG Recommendation:	Accept as Modified, 8-1-1	
TG Modification:	(b) — International Mechanical Code	
TG Reason:	Re-formatted to reflect submitter's intent.	

Section 12: Certified Compliance Path for Single-Family Homes, Townhomes, and Duplexes

PC130	ID 8315	1202.13 Roof overhangs
Submitter:	Theresa A Weston, ABAA & RAINA	
Comment:	<p>1202.13 Roof overhangs. Roof overhangs, in accordance with Table 602.1.1213, are provided over not less than 90% of exterior walls area to protect the building envelope. Exception: Exclude mechanical, electrical, and plumbing materials from total material cost.</p> <p><u>Exception: Buildings with concrete or masonry exterior walls.</u></p>	
Reason:	The exception as written appears to be incorrect in the this section as it's content does not relate to the content of the section. A new exception is proposed which addresses an exemption for concrete and masonry walls which have higher resistance to water damage. This proposal is related to proposals to sections 602.1.13 & 11.602.1.13	
TG Recommendation:	Disapprove, 4-0-1	
TG Modification:		
TG Reason:	Reject based on item of PC 132, the TG was persuaded by the PC132 discussion that this practice should not be mandatory for certification.	

PC131	ID 8336	1202.13 Roof overhangs
Submitter:	Michelle Foster, NGBS Green	
Comment:	<p>1202.13 Roof overhangs. Roof overhangs, in accordance with Table 602.1.1213, are provided over a minimum of not less than 90% of exterior walls area to protect the building envelope.</p> <p><u>Exception: Exclude mechanical, electrical, and plumbing materials from total material cost. [This is misplaced and a mistake?]</u></p>	
Reason:	This is clearly a cut and paste error in the draft.	
TG Recommendation:	Disapprove, 3-0-1	
TG Modification:		
TG Reason:	This was a duplicate of PC 130 and the TG was going to take action on that PC.	

PC132	ID 8379	1202.13 Roof overhangs
Submitter:	Karla Butterfield, Steven Winter Associates, Inc.	
Comment:	<p>1202.13 Roof overhangs. Roof overhangs, in accordance with Table 602.1.1213, are provided over a minimum of not less than 90% of exterior walls area to protect the building envelope.</p> <p>Exception: Exclude mechanical, electrical, and plumbing materials from total material cost.</p>	
Reason:	While overhangs are often a low-cost, effective way to prevent water and moisture issues, the table is too confining for all types of construction (i.e. flat roof). This is a credit in sections 6 and 11. It should not be a mandate for section 12.	
TG Recommendation:	Accept, 4-0-1	
TG Modification:		
TG Reason:		

PC133	ID 8386	1203.3 Duct testing
Submitter:	Karla Butterfield, Steven Winter Associates, Inc.	
Comment:	<p>Strike from 1203.3 Duct testing. Ducts shall be pressure tested to determine air leakage by one of the following methods: (1) Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 in. w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. Registers shall be taped or otherwise sealed during the test. (2) Post-construction test: Total leakage shall be measured with a pressure differential of 0.1 in. w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.</p> <p>Exceptions: 1) A duct air leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope; and 2) A duct air leakage test shall not be required for ducts serving heat or energy recovery ventilators that are not integrated with ducts serving heating or cooling systems.</p> <p>Add as <u>1203.10.2</u></p> <p><u>Duct testing. Ducts shall be pressure tested to determine air leakage by one of the following methods: (1) Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 in. w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. Registers shall be taped or otherwise sealed during the test. (2) Post-construction test: Total leakage shall be measured with a pressure differential of 0.1 in. w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.</u></p> <p><u>Exceptions: 1) A duct air-leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope; and 2) A duct air-leakage test shall not be required for ducts serving heat or energy recovery ventilators that are not integrated with ducts serving heating or cooling systems.</u></p>	
Reason:	To call this out as mandatory in the general section is confusing. Consider moving this into 1203.10 (performance path) since it is already an item in the prescriptive path 1203.13.	
TG Recommendation:	Disapprove, 4-0-1	
TG Modification:		
TG Reason:	The TG disapproved the PC because the Draft Standard does require testing for both compliance paths.	

PC134	ID 8381	1203.6 Air sealing and insulation
Submitter:	Cindy Wasser, Home Innovation	
Comment:	Recommend that Table 701.4.3.2(2) and Table 1203.6(B) be made consistent.	
Reason:	The NGBS includes visual air barrier and insulation installation guidance in two places: 701.4.3.2 and 1203.6(B). The same table has been updated differently by the Energy and Certified Path Task Groups. It would be easier for users to have the same installation requirements regardless of path pursued. I recommend that the Energy and Certified Path Task Groups collaborate on a common set of requirements	
TG Recommendation:	Accept as Modified, 4-0-1	
TG Modification:	Delete Table 1203.6(B) and refer instead to Table 701.4.3.2(2)	
	(B) Visual inspection. The air barrier and insulation items listed in Table <u>701.4.3.2(2)</u> 1203.6(B) shall be field verified by visual inspection.	
TG Reason:	The TG wanted to refer to the Table in Chapter 7 for consistency rather than reprinting in Chapter 12.	

PC135	ID 8334	1203.7 High-efficacy lighting
Submitter:	Michelle Foster, NGBS Green	
Comment:	<p>1203.7 High-efficacy lighting. A minimum of Not less than <u>100%</u> 90% of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent.</p> <p>1203.14 15 High-efficacy lighting. A minimum of Not less than 95% of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent.</p>	
Reason:	Two proposed changes, with conflicting requirements, one needs to go, I don't care which one but suggested 1203.14. And I believe to be consistent with Chapter 7 the requirement should be 100%	
TG Recommendation:	Accept as Modified, 4-0-1	
TG Modification:	<p>1203.7 High-efficacy lighting. A minimum of Not less than 100% of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent.</p> <p>1203.14 15 High-efficacy lighting. A minimum of Not less than 95% of the total hard-wired lighting fixtures or the bulbs in those fixtures qualify as high efficacy or equivalent. <u>All permanently installed lighting fixtures, excluding kitchen appliance fixtures, shall contain only high-efficacy lighting sources.</u></p>	
TG Reason:	The TG modified to make the language consistent with the requirement in Chapter 7. Also the TG notes that whatever the appropriate number should be is fine.	

PC136	ID 8384	1203.8 Appliances
Submitter:	Karla Butterfield, Steven Winter Associates, Inc.	
Comment:	<p>1203.8 Appliances. Where installed, refrigerator, dishwasher, <u>clothes washer, and clothes dryer</u> and/or washing machine shall be ENERGY STAR or equivalent.</p> <p><u>Exception: Where all four appliances are installed, only three must be ENERGY STAR or equivalent.</u></p>	
Reason:	Of all the appliances, clothes washers and dryers have the biggest energy impact. Change this requirement to include dryers but allow one appliance to not be labeled. Since this is a mandate and due to the frequent updating of the Energy Star Certified Appliances lists, it's not unusual for an appliance to "fall off" the list between specification and final verification.	
TG Recommendation:	Accept, 4-0-1	
TG Modification:		
TG Reason:		

PC137	ID 8325	1203.14 Building envelope leakage
Submitter:	Theresa A Weston, ABAA & RAINA	
Comment:	<p>1203.14 Building envelope leakage. The air leakage rate of the dwelling unit tested in accordance with ANSI/RESNET/ICC Std. 380, ASTM E779, or ASTM E1827 <u>or ASTM E3158</u> shall not be greater than the following:</p> <p>(a) climate zones 0-2: 5.0 <u>4.0</u> ACH, 0.33 <u>ELR50</u>, or 0.28 <u>0.27</u> cfm50 per square foot of enclosure area; (b) climate zones 3-8<u>5</u>: 3.0 ACH, 0.23 <u>ELR50</u>, or 0.23 cfm50 per square foot of enclosure area. <u>(c) climate zones 6-8: 2.5 ACH</u></p> <p>Exception: Unconditioned and low energy buildings.</p>	
Reason:	Updates the air leakage levels and test methods to those in the IECC-2024. The NGBS should correlate to the current version of the IECC. The IECC-2024 will be published before the NGBS and its content is currently publicly available in development documents.	

TG Recommendation:	Disapprove, 4-0-1
TG Modification:	
TG Reason:	The TG wants to keep the 2021 IECC as baseline, PLUS the referenced standard ASTM E3158 is for large and MF buildings.

PC138	ID 8389	1206.1 Homeowner's manual
Submitter:	Karla Butterfield, Steven Winter Associates, Inc.	
Comment:	(6) Provide information on regionally appropriate vegetation. from the local authority with jurisdiction-	
Reason:	While this intent is helpful, the AHJ is probably not the best source for regionally appropriate vegetation.	
TG Recommendation:	Accept, 4-0-1	
TG Modification:		
TG Reason:		

Section 13: Commercial Spaces

PC139	ID 8391	13.103.2 Building thermal envelope insulation
Submitter:	Katie Dorn, self	
Comment:	13.1053.12 Building thermal envelope insulation. The non-residential portion of the building must shall comply with the insulation requirements of ICC IECC Sections C402.1 through C402.3 as applicable, and § 13.103.35.1.1. or the entire building envelope including non-commercial areas meet complies with the total IECC UA or the entire building meets complies with the IECC as demonstrated with whole building energy model. A UA tradeoff shall be allowed for § 13.105.1 and § 13.105.2 is equal to or less than the ICC IECC UA.	
Reason:	Delete this practice. The items are covered in the practice above (13.103.2 Building thermal envelope insulation and fenestration). After reviewing old task group notes and proposal submissions, I believe 13.103.2 Building Thermal Envelope Insulation and Fenestration was intended to replace 13.103.2 Building Thermal Envelope Insulation.	
TG Recommendation:	Accept, 9-0-0	
TG Modification:		
TG Reason:	Striking redundant content.	

PC140	ID 8395	13.103.2 Building thermal envelope insulation and fenestration
Submitter:	Katie Dorn, self	
Comment:	Maximum UA. For ICC IECC residential, the total building UA is less than or equal to the total maximum UA as computed by 2015 ICC IECC Section R02.1.5. For ICC IECC commercial, the total UA is less than or equal to the sum of the UA for 2015 ICC IECC Tables C402.1.4 and C402.4, including the U factor times the area and C factor or F factor times the perimeter. The total UA proposed and baseline calculations are documented. REScheck or COMcheck is deemed to provide UA calculation documentation.	
Reason:	On A093 of the Public Proposal Report, it shows the task group recommended that the "Maximum UA" text be deleted. The Consensus Committee action was "accept as modified" with a few changes being made to the wording of 13.105.1; however the "Maximum UA" text was not included in this modification. It is unclear whether it was intended to be deleted or not. The text is still included in the 2024 draft.	
Substantiating Documents:	Yes	
TG Recommendation:	Accept, 9-0-0	
TG Modification:		
TG Reason:	Striking redundant content.	

PC141	ID 8403	13.104 FULL MIXED-USE BUILDING COMPLIANCE
Submitter:	Katie Dorn, self	
Comment:	13.105 Lot Design. 13.1054.1 Bicycle parking. Bicycle parking shall comply with § 13.1054.1.1 through § 13.1054.1.2	
Reason:	The way 13.104 Full Mixed-Use Building Compliance is currently formatted makes it appear that the bicycle parking practices are the only mandatory practices for the Full Mixed-Use Building Compliance pathway. To fix this, remove the black headings for 13.105, 13.106, 13.107, 13.108 and 13.109 and make them normal subheadings in bold. Additionally, add a subheading above bicycle parking (13.105 Lot Design) and adjust the rest of the numbers, matching NGBS Chapters.	
TG Recommendation:	Accept, 9-0-0	
TG Modification:		
TG Reason:		

PC142	ID 8283	13.105.3 Material selection
Submitter:	Cindy Wasser, Home Innovation	
Comment:	<p>13.105.3 Material Selection. At least six of the following Section 6 items shall be met where certifying to 13.104 (Fully Mixed-Use Building Compliance):</p> <p><u>603.2 Salvaged Materials</u></p> <p><u>604.1 Recycled Content</u></p> <p><u>606.1 Biobased Products</u></p> <p><u>606.2 Wood-Based Products</u></p> <p><u>606.3 Manufacturing Energy</u></p> <p><u>608.1 Resource-Efficient Materials</u></p> <p><u>609.1 Regional Materials</u></p> <p><u>610.1.2.1 Product LCA</u></p> <p><u>610.1.2.2 Building Assembly LCA</u></p> <p><u>611.1.1 and 611.1.2 Product Declarations</u></p> <p><u>612.1 Manufacturer's Environmental Management System Concepts</u></p> <p><u>612.2 Sustainable Products</u></p> <p>-</p>	
Reason:	The listed items are not in alphabetical or numeric order. Suggest re-ordering for easier navigation.	
TG Recommendation:	Accept as Modified, 9-0-0	
TG Modification:	<p>13.105.3 Material Selection. At least Not less than six of the following Section 6 items shall be met where certifying to 13.104 (Fully Mixed-Use Building Compliance):</p> <p><u>603.2 Salvaged Materials</u></p> <p><u>604.1 Recycled Content</u></p> <p><u>606.1 Biobased Products</u></p> <p><u>606.2 Wood-Based Products</u></p> <p><u>606.3 Manufacturing Energy</u></p> <p><u>608.1 Resource-Efficient Materials</u></p> <p><u>609.1 Regional Materials</u></p> <p><u>610.1.2.1 Product LCA</u></p> <p><u>610.1.2.2 Building Assembly LCA</u></p> <p><u>611.1.1 and 611.1.2 Product Declarations</u></p> <p><u>612.1 Manufacturer's Environmental Management System Concepts</u></p> <p><u>612.2 Sustainable Products</u></p>	

TG Reason:	Corrected language to match format of standard.
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Section 14: Referenced Documents

PC143	ID 8272	SECTION 14: REFERENCED DOCUMENTS
Submitter:	Craig Drumheller, WDMA	
Comment:	<p>Page 253 Referenced Documents:</p> <p>IECC 2018 <u>2024</u></p> <p>-</p> <p>Section</p> <p>-----</p> <p><u>R610.1.1(2)</u></p> <p><u>R701.1.4</u></p> <p>etc....</p>	
Reason:	<p>The IECC being referenced in the 2024 NGBS should be the 2024 IECC. Additional changes will be necessary to make sure there are not duplicate credits or missing requirements when reconciling the latest changes. Although the 2024 IECC is not yet published, there is enough information in the Residential IECC 2nd Public Review Draft that it can be used to coordinate the IECC requirements with the NGBS. Note: The committee already approved updating the referenced IECC from the 2018 to the 2021 with the expectation that changing to the 2024 might be revisited at a future date. Also, all the sections should have a preceding "R" of for the residential code and a preceding "C" if referencing the commercial portion of the IECC</p>	
TG Recommendation:	Accept as Modified, 9-0-1	
TG Modification:	<p>IECC 2018 <u>20214</u></p> <p>-</p> <p>Section</p> <p>-----</p> <p><u>R610.1.1(2)</u></p> <p><u>R701.1.4</u></p> <p>etc....</p> <p><u>701.1.X Alternative Silver level compliance. As an alternative, any building within the scope of the NGBS that complies with the 2024 IECC achieves the Silver level for Chapter 7.</u></p>	
TG Reason:	<p>The 2021 IECC is the most appropriate baseline. Also, building complying with the 2024 IECC warranted a higher compliance level. We also recommended adding a preceding "r" to all residential sections referenced as an editorial change.</p>	

PC144	ID 8309	SECTION 14: REFERENCED DOCUMENTS
Submitter:	Jonathan Humble, Cool Roof Rating Council	
Comment:	<p>Section 14</p> <p>REFERENCED DOCUMENTS</p>	

1402.0 Referenced Documents <i>(Modify as shown below)</i>			
CCRC <u>CRRC</u>– Cool Roof Rating Council			
Cool Roof Rating Council Documents	DATE	TITLE	SECTION
CRRC-1	2023	CRRC-1 <u>Roof Product Rating Program</u> Manual	602.2(1), <u>705.2.4(2)</u> , 11.06.2.2(1)

Reason: It is proposed to have the CRRC acronym corrected, along with the title of CRRC-1 in Section 14 Referenced Documents, along with the new section reference to 705.2.4 added to the listing. (See also Section 705.2.4 code change proposal)

TG Recommendation: Accept as Modified, 9-0-1

TG Modification:

Section 14

REFERENCED DOCUMENTS

1402.0 Referenced Documents
(Modify as shown below)

~~CCRC~~ CRRC– Cool Roof Rating Council

Cool Roof Rating Council Documents	DATE	TITLE	SECTION
CRRC <u>S100</u>	2021 <u>3</u>	<u>Standard Test Methods for Determining Radiative Properties of Materials</u> CRRC-1 Roof Product Rating Program Manual	602.2(1), 705.2.4(2), 11.06.2.2(1)

TG Reason: The committee modified this further on the basis of a preference to reference a test standard rather than a product rating program.

PC145 ID 8311 SECTION 14: REFERENCED DOCUMENTS

Submitter: Jonathan Humble, Cool Roof Rating Council

Comment:

Section 14

REFERENCED DOCUMENTS

1402.0 Referenced Documents
(Add a new document as shown below)

Cool Roof Rating	DATE	TITLE	SECTION
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	<p>Council Documents DOCUMENT</p> <p><u>CRRC-2</u> <u>2023</u> <u>CRRC-2 Wall Product Rating</u> <u>705.2.3(2)</u> <u>Program Manual</u></p> <hr/>
Reason:	<p>We propose adding a reference to the CRRC-2 Wall Product Rating Program Manual, a document that details the testing and labeling requirements of the CRRC Wall Rating Program. The manual was developed and vetted over a two-year period by a 27-member committee comprising 21 different organizations, including manufacturing and trade associations. Through the CRRC Wall Rating Program, manufacturers and sellers have the opportunity to get their wall products tested and labeled in accordance with the CRRC’s strict protocols outlined in the CRRC-2 Program Manual. The CRRC is a 501(c)(3) nonprofit organization established in 1998 to develop accurate and credible methods for evaluating and labeling the radiative properties of roofing products. The CRRC also provides education to the public on how cool roofs and solar-reflective walls can help improve building energy efficiency, increase occupant comfort, mitigate the impacts of the urban heat Island effect, and reduce greenhouse gas emissions. In 2018, the CRRC officially expanded the organization’s scope and mission to include the rating of exterior wall products. The CRRC worked closely with stakeholders from industry and end users on the development of the program over a two-year period. The program, which is the first and only in the world, officially launched on January 17, 2022. The CRRC Wall Rating Program is similar to the CRRC Roof Rating Program (CRRC-1), but with some technical differences. (See also related Section 705.2.3 code change proposal)</p>
TG Recommendation:	Accept, 8-0-1
TG Modification:	
TG Reason:	

PC146	ID 8326	SECTION 14: REFERENCED DOCUMENTS
Submitter:	Theresa A Weston, ABAA & RAiNA	
Comment:	<p>ASHRAE 62.1 2019 <u>2022</u> Ventilation for Acceptable Indoor Air Quality</p> <p>ASHRAE 62.2 2019 <u>2022</u> Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings</p> <p>ASHRAE 105 2021 <u>2022</u> Standard Methods of Determining, Expressing and Comparing Building Energy Performance and Greenhouse Gas Emissions</p> <p>ASHRAE 189.1 2014 <u>2023</u> Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings</p>	
Reason:	Update ASHRAE Standards to most recent versions.	
TG Recommendation:	Defer to CC, 12-0-2	
TG Modification:		
TG Reason:	<p>Table this until the adoption of the baseline IECC for the 2024 NGBS.</p> <p>189.1 2023 has not been published yet, so with the modifications we are moving to the most recent versions. The TG also recommends that for 702.2.1 it should reference the IgCC and not 189.1 because 189.1 is not supposed to be available in North America. Refer this update to TG 5 Energy. The TG also notes that the 62.1 references will depend on the baseline code</p>	

PC147	ID 8327	SECTION 14: REFERENCED DOCUMENTS
Submitter:	Theresa A Weston, ABAA & RAINA	
Comment:	<p>D7338 2014(<u>2023</u>) Standard Guide for Assessment of Fungal Growth in Buildings</p> <p>E283 2012 <u>2019</u> Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen</p> <p>E1745 2017 <u>2023</u> Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs</p> <p>E1827 2011 (2017) <u>2022</u> Standard Test Methods for Determining Airtightness of Buildings Using an Orifice Blower Door</p> <p>E2921-16a 2013 <u>2016</u> <u>2022</u> Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes and Rating Systems 610.1.1, 610.1.1(1), 1</p>	
Reason:	Updating ASTM references	
TG Recommendation:	Accept, 12-0-2	
TG Modification:		
TG Reason:		

Appendix B: Examples of Third-Party Programs for Indoor Environmental Quality

PC148	ID 8291	APPENDIX B: EXAMPLES OF THIRD-PARTY PROGRAMS FOR INDOOR ENVIRONMENTAL QUALITY
Submitter:	Cindy Wasser, Home Innovation	
Comment:	APPENDIX B: EXAMPLES OF THIRD-PARTY PROGRAMS FOR INDOOR ENVIRONMENTAL QUALITY	
Reason:	Rename this section. The text was expanded by TG3 to include examples for all product labels included throughout the entire standard.	
TG Recommendation:	Accept, 7-0-0	
TG Modification:		
TG Reason:		

PC149	ID 8359	APPENDIX B: EXAMPLES OF THIRD-PARTY PROGRAMS FOR INDOOR ENVIRONMENTAL QUALITY	
Submitter:	John McKeon, iAIR Institute		
Comment:	Related section of standard:	Examples of Third-party Certification Programs Compliant with the Corresponding Section	
	901.7 8 (1) Hard-surface flooring 11.901.8 (1) Hard-surface flooring	UL GREENGUARD Gold Resilient Floor Covering Institute's FloorScore Indoor Air Certification Program <u>asthma & allergy friendly</u> [®] Certification Program	
	901.8 9 Wall coverings 11.901.9 Wall coverings	UL GREENGUARD Gold Scientific Certification Systems (SCS) Indoor Advantage Gold Program <u>asthma & allergy friendly</u> [®] Certification Program	
	901.9 10 Architectural interior architectural coatings 11.901.10 Interior architectural coatings	UL GREENGUARD Gold Scientific Certification Systems (SCS) Indoor Advantage Gold Program Green Seal-11 Standard for Paints and Coatings UL 2768 <u>asthma & allergy friendly</u> [®] Certification Program	
	901.11 12 Insulation 11.901.12 Insulation	UL GREENGUARD Gold Scientific Certifications Systems (SCS) Indoor Advantage Gold Program <u>asthma & allergy friendly</u> [®] Certification Program	
	Text in Table B200(2) to include:		
	Third-party Certification Program	Contact Information for the Program Administrator	
	<u>asthma & allergy friendly</u> [®] Certification Program	<u>Allergy Standards Ltd</u> <u>Trinity Enterprise Campus,</u> <u>Grand Canal Quay,</u> <u>D02 RP44, Ireland</u> <u>Tel: + 353 1 675 5678</u> <u>Tel: +1-212-252-2109</u>	
Reason:	The asthma & allergy friendly [®] Certification Program is an example of a Third-party Certification Program		

	which covers relevant sections of the standard and should be included in the Table in Appendix B. The asthma & allergy friendly® Certification Program is a collaboration between Allergy Standards Ltd. and the Asthma and Allergy Foundation of America. This program helps people make informed purchases for a healthier home. Household products and building materials which impact indoor air quality are tested against strict standards and the Program has been operational since 2010. The asthma & allergy friendly® Certification program is listed as an approved third party certification for the LEED low-emitting materials credit since April 2023, for paint, insulation and flooring.
TG Recommendation:	Disapprove, 6-0-1
TG Modification:	
TG Reason:	The basis of the certification is not transparent and not based on 3 rd party inspections and standards based on the website.

PC150	ID 8402	APPENDIX B: EXAMPLES OF THIRD-PARTY PROGRAMS FOR INDOOR ENVIRONMENTAL QUALITY
Submitter:	Damiyen, self	
Comment:	APPENDIX B: EXAMPLES OF THIRD-PARTY PROGRAMS <u>AND ACCREDITATION</u> FOR INDOOR ENVIRONMENTAL QUALITY (Please see attached for full comments)	
Reason:	Adding missing text.	
Substantiating Documents:	Yes	
TG Recommendation:	Accept, 7-0-0	
TG Modification:		
TG Reason:		

Appendix D: Water Rating Index

PC151	ID 8270	APPENDIX D: WATER RATING INDEX
Submitter:	Cindy Wasser, Home Innovation	
Comment:	<p>D101.9.56(6) NonLandscapeWaterUse shall be the sum of outdoor exposed pools, spas, and fountains, if any</p> <p>(1) The water requirement for outdoor uncovered pools, spas, or fountains is 70% of the evapotranspiration (ET_o). The water demand is the same covered or uncovered.</p> <p>Exception: Pools with <u>automated</u> motorized covers shall use 40% of the evapotranspiration.</p> <p>(2) The baseline assumes uncovered pools, spas, or fountains only if present for the proposed.</p> <p>NonLandscapeWaterUseBaseline = (Evapotranspiration(in)(annual) * Pool/Spa/Fountain Area (square feet) * 0.623 (gallons/sq ft of 1 in of water)</p> <p>NonLandscapeWaterUseVerified = (Evapotranspiration(in)(annual) * CoverFactor) * Pool/Spa/Fountain Area (square feet) * 0.623 (gallons/sq ft of 1 in of water)</p> <p>Where CoverFactor = 0.70 <u>0.40</u> if an automatic motorized pool cover is installed</p>	
Reason:	<p>The information within D101.9.6(2) directly contradicts the information presented in D101.9.6(1). Based on the information presented, I believe that a 0.70 cover factor should be applied to uncovered pools and that a 0.40 cover factor should be applied to pools with automated motorized covers. This edit would bring the two sub-sections into alignment.</p>	
TG Recommendation:	Accept as Modified, 6-0-1	
TG Modification:	<p>D101.9.56(6) NonLandscapeWaterUse shall be the sum of outdoor exposed pools, spas, and fountains, if any</p> <p>(1) The water requirement for outdoor uncovered pools, spas, or fountains is 70% of the evapotranspiration (ET_o). The water demand is the same covered or uncovered.</p> <p>Exception: Pools with automated motorized covers shall use 40% of the evapotranspiration.</p> <p>(2) The baseline assumes uncovered pools, spas, or fountains only if present for the proposed.</p> <p>NonLandscapeWaterUseBaseline = (Evapotranspiration(in)(annual) * Pool/Spa/Fountain Area (square feet) * 0.623 (gallons/sq ft of 1 in of water)</p> <p>NonLandscapeWaterUseVerified = (Evapotranspiration(in)(annual) * CoverFactor) * Pool/Spa/Fountain Area (square feet) * 0.623 (gallons/sq ft of 1 in of water)</p> <p>Where CoverFactor = 0.70 <u>0.40</u> if an automatic motorized pool cover is installed</p> <p>In addition:</p> <p>802.1011.1 Pools and Spas with water surface area greater than 36 ft² and connected to a water supply shall have a dedicated meter capable of tracking water supplied to the pool(s) and/or spa(s) to measure the amount of water supplied to the pool or spa. Mandatory</p> <p>11.802.10 11 Pools and spas</p>	

	(1) 11.802.11.1 An automated motorized non-permeable pool cover is installed and extends across that covers the entire pool surface. 10
TG Reason:	Agree with submitter on numeric change (0.7 to 0.4). Strike out 'automated' due to safety considerations within the whole chapter.

PC152	ID 8271	APPENDIX D: WATER RATING INDEX
Submitter:	Cindy Wasser, Home Innovation	
Comment:	Dishwasher 5-6.5 gallon/cycle	
Reason:	It is my understanding that, when multiplied against the Use Factors in Table D101.6.3, the default values in the Other Appliances section should result in the Baseline Volume Per Occupant (also listed in Table D101.6.3). The default water usage for dishwasher was changed from 6.5 to 5. When multiplied by the Use Factor (0.26), the water usage is calculated to 1.3. This is lower than the baseline water usage, which is listed as 1.69 in Table D101.6.3. Suggest reverting the Dishwasher default value back to 6.5 so that the numbers are aligned.	
TG Recommendation:	Accept as Modified, 6-0-1	
TG Modification:	Reject above comment and change dishwasher baseline volume/occupant to 1.3 from 1.69 in appendix D table D101.6.3	
TG Reason:	Aligning values with federal minimum standards for dishwashers (which is 5 gal/cycle).	