

BCAC Group B Report

WG	Item	CDP number	Code change Number	Comm .	Time/Date	Position - A, NP, D	Section number	Topic
ADM	24	8215	ADM007-22 Part 1	ADM			101.2	limitation for appendix
ADM	24	8900	ADM007-22 Part 2	IRC			101.2	limitation for appendix
ADM	33	8550	ADM013-22 Part 1	ADM			104	Alternative means section from FCAC committee
ADM	33	8913	ADM013-22 Part 2	IRC			104	Alternative means section from FCAC committee
ADM	32	8216	ADM034-22 Part 1	ADM			104.11 IEBC, IFC, IFGC, IGCC, IMC, IPC, IPMC, IPSDC, ISPSC, IWUIC, IECC (C and R)	Alternative means
ADM	32	8902	ADM034-22 Part 2	IRC			IRC	Alternative means
			ADM014-22	ADM			104	Alternative means section from FCAC committee - Kevin Scott put in PMGCAC portion
			ADM015-22 Part 1	ADM			104.9 approved materials	104.9 approved materials from CCAC
			ADM015-22 Part 2	IRC			104.9 approved materials	104.9 approved materials from CCAC
			ADM016-22 Part 1	ADM			104.9 approved materials	104.9 research and evaluation reports
			ADM016-22 Part 2	IRC			104.9 approved materials	104.9 research and evaluation reports
			ADM017-22 Part 1	ADM			104.1	add interpretations - FCAC would not support
			ADM017-22 Part 2	IRC			104.1	add interpretations -

								FCAC would not support
			ADM018-22	ADM			IFC 104.9	Fire code official to allow for natural disasters
			ADM019-22	ADM			IFC 202	approved agency
			ADM020-22	ADM			IEBC 202	approved agency
			ADM021-22	ADM			IBC 104.1	listed compliance
			ADM022-22	ADM			IFC 104.1	listed compliance
			ADM023-22	ADM			IEBC 104.1	listed compliance
			ADM024-22 Part 1	ADM			IFC, IBC, IEBC 104.8	listed products
			ADM024-22 Part 2	IRC			IRC 104.8	listed products
			RB011-22	IRC				listed complinace
			RB012-22	IRC				Alternative meghods format
			ADM025-22	ADM			IFC	alternative methods format
			ADM026-22	ADM			IIBC	alternative methods format
			ADM027-22	ADM			IWUIC	alternative methods format
			ADM028-22	ADM			IWUIC	alternative methods in writing
			ADM029-22	ADM			IEBC	alternative methods in writing
			ADM030-22	ADM			IBC	research reports
			ADM031-22	ADM			IEBC	research reports
			ADM032-22	ADM			IFC	research reports
			ADM033-22	ADM			IWUIC	research reports
			RB013-22	IRC			IRC	research reports
			ADM035-22	ADM			IBC, IEBC; IFC; IFGC, IMC:, IPC; IPSDC	ICCP performance exception
			ADM036-22 Part 1	ADM			IBC, IEBC; IFC; IFGC, IMC:, IPC; IPMC, IWUIC	expand on fire resistance
			ADM036-22 Part 2	IRC			IRC	expand on fire resistance
ADM	19	8124	ADM040-22	ADM			IPSDC	Fees - Coord with ADM 27 and 33

ADM	4	8081	ADM041-22 Part 1	ADM			IBC, IPC, IMC, IFGC, IEBC, IPSDC, IWUIC, ISPSC, IFC	Temporary structures
ADM	4	8896	ADM041-22 Part 2	IRC			IRC	Temporary structures
ADM	23	8126	ADM042-22	ADM			IPC 109.3	Section on valuation of fees missing
ADM	2	8134	ADM043-22 Part 1	ADM			IECC (submitted) IBC, IFC, IEBC, IWUIC, IZC, IMC, IPMC, IFGC, ISPSC, and IGCC	Coordinate Section on Fees
ADM	2	8899	ADM043-22 Part 2	IRC			IRC	Coordinate Section on Fees
ADM	18	8214	ADM044-22	ADM			ISPSC, IPSDC, IFGC, IPC, IMC	duplicate text/errata - service utilities/violations
ADM	20	8125	ADM046-22	ADM			ISPSC, IPSDC, IFGC, IPMC	Coord with ADM 43
ADM	6	8088	ADM048-22 Part 1	ADM			IBC, IEBC, IWUIC, IMC, IFC, ISPSC, IPC, IFGC, IPMC, IPSDC, IGCC	Board of Appeals, Means of Appeals
ADM	6	8897	ADM048-22 Part 2	IRC			IRC	Board of Appeals, Means of Appeals
ADM	11	8213	ADM049-22				IEBC, IPMC	Demolition
IEB C	11	7913	CCCIEBC3-22					renumber Chapter 13 into separate section
IEB C	18 & 22	8297	EB012-22	EB				ICC 500- coordination with determination of occupant load for building vs. shelter
			EB009-22	EB			302.6	Risk category
			EB010-22	EB			302.6	Risk category
			EB014-22	EB			304.1	structural design loads
			EB047-22	EB			502.1.1	Risk category

			EB048-22	EB			502.1.1	structural design loads
			EB061-22	EB			502.5	wind loads
			EB065-22	EB			503.5, 906.3	risk category
			EB067-22	EB			503.12, 706.3.2	wind loads
			S070-22	STR			Table 1604.5	risk category
IEB C	8 & 20	8259	EB023-22	EB			305.8.8	Additions for Type B units
			EB021-22	EB			306.5	Type B unit exception in COO
IEB C	30	8304	EB032-22	EB				Carbon monoxide detectors
IEB C	14A	8296	EB043-22	EB				Electrical repairs
IEB C	23	8299	EB079-22	EB				Coordination with EERO
			EB074-22	EB				window fall devices
IEB C	21	8298	EB083-22	EB			804.4	Coordination for single exit tables in IEBC and IBC
IEB C	25A	8301	EB084-22	EB				occupied roof added on an existing building
			EB046-22	EB			502.1	occupied roof added on an existing building
			EB085-22	EB			804.4	access to exits
			S100-22	S			IBC 1607.9.1	guards on roofs
			EB098-22	EB			IEBC 1011.5.1	guards on roof for Group I-1 & I-2
IEB C	9	8295	EB087-22	EB			403.1	Existing stairway in work area method
IEB C	2B	8254	EB091-22	EB				emergency responder radio
IEB C	25B	8302	EB094-22	EB				occupied roof added on an existing building-exception
IEB C	3	8256	EB097-22	EB				sprinklers in COO
IEB C	5	8257	EB110-22	EB				1203.3

IEB C	28	8303	EB116-22	EB				Suggested Appendix Q for temporary emergency use
IRC	11	8441	RB003-22	IRC			IRC	Accessory buildings and structures
ADM	13	8123	RB004-22	IRC			IRC	Coordination of scope between IRC and IBC
			RB005-22	IRC				Coordination of scope between IRC and IBC
ADM	9	8191	RB006-22	IRC			IRC	Property protection added to intent
ADM	5	8086	RB010-22	IRC			IRC	Enforcement agency
IRC	27	8193	RB045-22	IRC				Rafter splices
IRC	2	8200	RB051-22	IRC				Soffit fire resistance
IRC	25	8192	RB062-22	IRC			R302.3	townhouse unit seperation
			RB061-22	IRC			R302.3	townhouse unit seperation
			RB063-22	IRC			R302.3	townhouse unit seperation
			RB064-22	IRC			R302.3.2	accessory rooms
			RB065-22	IRC			R302.3.2	opening in townouse unit seration
			RB066-22	IRC			R302.3.2	opening in townouse unit seration
IRC	13	8334	RB085-22	IRC				screening
IRC	34	8229	RB088-22	IRC				Electric vehicle charging stations and systems
IRC	1A	8333	RB089-22	IRC				EERO
IRC	1B	8356	RB092-22	IRC				EERO
IRC	6A	8331	RB094-21	IRC				EERO to balcony, porch
IRC	6B	8354	RB095-22	IRC				EERO under carport
IRC	1C	8357	RB098-22	IRC				EERO
			RB090-22	IRC				EERO
			RB091-22	IRC				EERO
			RB093-22	IRC				EERO
			RB096-22	IRC				EERO
			RB097-22	IRC				EERO

			RB099-22	IRC			EERO
			RB120-22	IRC			Fall protection
IRC	18	8185	RB100-22	IRC			steps between garage and dwelling
IRC	32	8202	RB121-22	IRC			IRC FCAC Smoke Alarm Proposal for IRC WG Discussion
			RB122-22	IRC			smoke alarms
			RB123-22	IRC			smoke alarms
ADM	10	8106	RB126-22	IRC		IRC R111	Service utilities
IRC	15	8335	RB143-22	IRC			update R323, storm shelters
			RB144-22	IRC			storm shelters
IRC	30	8332	RB151-22	IRC			mezzanine height and area.
IRC	24	8187	RB167-22	IRC			fixing FIGURE R403.1(1)
IRC	16	8208	RB171-22	IRC		R404.1.2(1)	Reinforcement requirements in foundation walls
IRC	33	8201	RB182-22	IRC			FIGURE R507.5
IRC	21	8511	RB191-22	IRC		R602.3	nailing tables from North Carolina
IRC	5	8456	RB199-22	IRC		R602.10.2.2	panel location
IRC	26	8504	RB253-22	IRC		R902.1, 2, 3, 4	new
IRC	1D	8358	RB298-22	IRC			EERO
IRC	7	8458	RB314-22	IRC			Accessory Dwelling units
			EB034-22	EB		R310	Accessory Dwelling units
			RB060-22	IRC		302.3	Accessory Dwelling units
			RB001-22	IRC		R101.2	Existing buildings in IRC
			RB002-22 Part 1	IRC		R101.2	Existing buildings in IRC
			RB002-22 Part 2	ADM		R101.2	Existing buildings in IRC
			RB007-22	IRC		R102.7.1	Existing buildings in IRC
			RB008-22	IRC		R102.7.1	Existing buildings in IRC
ADM	1	8053	S099-22	STR		IBC 106	Move posting to Chapter 16

STR	1	8204	S119-22 Part 1	STR			IBC 1609.2.2	ASTM E1096 and ASCE 7 coord. (suggested text)
STR	1	8886	S119-22 Part 2	IRC			IRC R201.2.1.2. 1	ASTM E1096 and ASCE 7 coord. (suggested text)
STR	7	8203	S134-22	STR			1616.1	reference to ASCE7 Appendix E
STR	13	8474	S164-22	STR				CONVENTIONA L light frame construction clarifications
STR	11	8206	S173-22	STR				Slabs on grade bending under uplift
STR	4	8336	S175-22	STR			1905	Clean up of ACI 318 reference (suggested text)
		8821	S196-22	STR			2211.3, IPC 307.3, IMC 307.3	cutting and notching
STR	14	8207	S223-22	STR			2211.3, IPC 307.4	IBC Section 2308, Conventional Construction
		8826	S224-22	STR			2308.3	cutting and notching
STR	5	8205	S225-22	STR			2308.4.4.1	clarification for openings in floor diaphragms (suggested text)

ADM7-22 Part I

ICCP: 101.3.3 (New); IEBC: 101.2.1 (New), [A] 101.6; IFGC: [A] 101.3; IPC: [A] 101.2, 101.2.1 (New); IPMC: 101.2.1 (New); ISPSC: 101.2.1 (New); IGCC: 101.3.2 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Code Council Performance Code

Add new text as follows:

101.3.3 **Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

2021 International Existing Building Code

Add new text as follows:

101.2.1 **Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

Delete without substitution:

~~[A] **101.6 Appendices.** The *code official* is authorized to require retrofit of buildings, structures or individual structural members in accordance with the appendices of this code if such appendices have been individually adopted.~~

2021 International Fuel Gas Code

Revise as follows:

[A] 101.2.1 ~~101.3~~ **Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

2021 International Plumbing Code

Revise as follows:

[A] **101.2 Scope.** The provisions of this code shall apply to the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of plumbing systems within this jurisdiction. This code shall regulate nonflammable medical gas, inhalation anesthetic, vacuum piping, nonmedical oxygen systems and sanitary and condensate vacuum collection systems. The installation of fuel gas distribution piping and equipment, fuel-gas-fired water heaters and water heater venting systems shall be regulated by the *International Fuel Gas Code*. ~~Provisions in the appendices shall not apply unless specifically adopted.~~

Exception: Detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress, and their accessory structures not more than three stories above grade plane in height, shall comply with this code or the International Residential Code.

Add new text as follows:

101.2.1 **Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

2021 International Property Maintenance Code

Add new text as follows:

101.2.1 **Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

2021 International Swimming Pool and Spa Code

Add new text as follows:

101.2.1 **Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

2021 International Green Construction Code

Add new text as follows:

101.3.2 **Appendices.** Provisions in the appendices shall not apply unless specifically adopted.

Reason: Appendices are in all of the codes except for IZC. The intent is to put information about their adoption for inclusion in the same location in

all of the codes immediately following the section on scope. This is already the case in the IBC, IFC, IMC, IPSDC and IWUIC. This section is added to ICCPC, IGCC, IPMC, and ISPSC. This section is relocated in the IEBC, IFGC, IPC and IRC. This will also be proposed to the first public draft of the IECC.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) and ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an editorial coordination item.

ADM7-22 Part II

IRC: R102.5

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

~~R102.5~~ **R101.2.1 Appendices.** Provisions in the appendices shall not apply unless specifically referenced in the adopting ordinance adopted.

Reason: Appendices are in all of the codes except for IZC. The intent is to put information about their adoption for inclusion in the same location in all of the codes immediately following the section on scope. This is already the case in the IBC, IFC, IMC, IPSDC and IWUIC. This section is added to ICCPC, IGCC, IPMC, and ISPSC. This section is relocated in the IEBC, IFGC, IPC and IRC. This will also be proposed to the first public draft of the IECC.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) and ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an editorial coordination item.

ADM13-22 Part I

IBC: SECTION 104, 202; IEBC: SECTION 104, 202; IFC: SECTION 104, 202; IPMC: SECTION 105, 202; IWUIC: SECTION 104, 105, 202; IZC: [A] 104.7, [A] 104.7.1; IGCC: SECTION 104

Proponents: Robert Marshall, representing FCAC (fcac@iccsafe.org); Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Jeffrey Shapiro, representing Lake Travis Fire Rescue (jeff.shapiro@intlcodeconsultants.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

Primary sections and titles shown as deleted include the deletion of all sections and subsections within them. For clarity, the full text of these deletions are not shown.

2021 International Building Code

Revise as follows:

[A] APPROVED AGENCY. An established and recognized ~~agency organization~~ that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such ~~agency organization~~ has been *approved* by the *building official*.

Add new definition as follows:

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

Revise as follows:

~~SECTION 104~~ **~~DUTIES AND POWERS OF THE BUILDING OFFICIAL~~** ***(Delete entire section and replace as follows)***

Add new text as follows:

SECTION 104 **DUTIES AND POWERS OF THE BUILDING OFFICIAL.**

[A] 104.1 General. The building official is hereby authorized and directed to enforce the provisions of this code.

[A] 104.2 Determination of Compliance. The building official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the building official upon request.

[A] 104.2.2 Technical assistance. To determine compliance with this code, the building official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

[A] 104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the building official. The building official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the building official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the building official shall approve the testing procedures. Tests shall be performed by a party acceptable to the building

official.

[A] 104.2.3 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

[A] 104.2.3.1 Approval authority. An alternative material, design or method of construction shall be approved where the building official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3 through 104.2.3.7, as applicable.

[A] 104.2.3.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the building official for approval. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

[A] 104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the building official.

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public and made available for review by the public.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the building official. The building official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.3.7 Peer review. The building official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the building official.

[A] 104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the building official shall have the authority to grant modifications for individual cases provided that the building official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen health, accessibility, life and fire safety or structural requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of building safety.

[A] 104.2.4.1 Flood hazard areas. The building official shall not grant modifications to any provision required in flood hazard areas as established by Section 1612.3 unless a determination has been made that:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section 1612 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.

4. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.
5. Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property.

[A] 104.3 Applications and permits. The building official shall receive applications, review construction documents and issue permits for the erection, and alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] 104.3.1 Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas. For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures located in flood hazard areas, the building official shall determine if the proposed work constitutes substantial improvement or repair of substantial damage. Where the building official determines that the proposed work constitutes substantial improvement or repair of substantial damage, and where required by this code, the building official shall require the building to meet the requirements of Section 1612 or Section R322 of the International Residential Code, as applicable.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the building official has reasonable cause to believe that there exists in a structure or on a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the building official is authorized to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed by this code. If such structure or premises is occupied, the building official shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the building official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the building official shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the building official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the building official for the purpose of inspection and examination pursuant to this code.

[A] 104.5 Identification. The building official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Notices and orders. The building official shall issue necessary notices or orders to ensure compliance with this code in accordance with Section 114.

[A] 104.7 Official records. The building official shall keep official records as required by Sections 104.7.1 through 104.7.5. Such official records shall be retained for not less than 5 years or for as long as the building or structure to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the building official and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The building official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.3; modifications in accordance with Section 104.2.4; and documentation of the final decision of the building official for either shall be in writing and shall be retained in the official records.

[A] 104.7.4 Tests. The building official shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.3.5.

[A] 104.7.5 Fees. The building official shall keep a record of fees collected and refunded in accordance with Section 109.

[A] 104.8 Liability. The building official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The building official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the building official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working

condition and approved.

2021 International Existing Building Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been approved by the code official.

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

Revise as follows:

SECTION 104 **~~DUTIES AND POWERS OF THE CODE OFFICIAL~~** *(Delete entire section and replace as follows)*

Add new text as follows:

SECTION 104 **DUTIES AND POWERS OF THE CODE OFFICIAL**

[A] 104.1 General. The code official is hereby authorized and directed to enforce the provisions of this code.

[A] 104.2 Determination of Compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.

[A] 104.2.2 Technical assistance. To determine compliance with this code, the code official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

[A] 104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the fire safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3 Alternative materials, design and methods of construction, and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

[A] 104.2.3.1 Approval authority. An alternative material, design or method of construction shall be approved where the code official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3.2 through 104.2.3.7, as applicable.

[A] 104.2.3.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

[A] 104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternative material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and made available for review by the public.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence. The report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the fire code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.3.7 Peer review. The code official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the code official.

[A] 104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases, provided that the code official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen health, accessibility, life and fire safety, or structural requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of building safety.

[A] 104.2.4.1 Flood hazard areas. For existing buildings located in flood hazard areas for which repairs, alterations and additions constitute substantial improvement, the code official shall not grant modifications to provisions related to flood resistance unless a determination is made that:

1. The applicant has presented good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render compliance with the flood-resistant construction provisions inappropriate.
2. Failure to grant the modification would result in exceptional hardship.
3. The granting of the modification will not result in increased flood heights, additional threats to public safety, extraordinary public expense nor create nuisances, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. The modification is the minimum necessary to afford relief, considering the flood hazard.

A written notice will be provided to the applicant specifying, if applicable, the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation and that construction below the design flood elevation increases risks to life and property.

[A] 104.3 Applications and permits. The code official is authorized to receive applications, review construction documents and issue permits for the repair and construction regulated by this code; inspect the premises for which such permits have been issued; and enforce compliance with the provisions of this code.

[A] 104.3.1 Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas. For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures located in flood hazard areas, the code official shall determine where the proposed work constitutes substantial improvement or repair of substantial damage. Where the code official determines that the proposed work constitutes substantial improvement or repair of substantial damage, and where required

by this code, the code official shall require the building to meet the requirements of Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable.

[A] 104.3.2 Preliminary meeting. When requested by the permit applicant or the code official, the code official shall meet with the permit applicant prior to the application for a construction permit to discuss plans for the proposed work or change of occupancy in order to establish the specific applicability of the provisions of this code.

Exception: Repairs and Level 1 alterations.

[A] 104.3.3 Building evaluation. The code official is authorized to require an existing building to be investigated and evaluated by a registered design professional based on the circumstances agreed on at the preliminary meeting. The design professional shall notify the code official if any potential noncompliance with the provisions of this code is identified.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the code official has reasonable cause to believe that there exists in a structure or on a premises any conditions or violations of this code that makes the structure or premises unsafe, dangerous or hazardous, the code official shall have the authority to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed on the code official by this code. If such structure or premises is occupied, the code official shall present credentials to the occupant and request entry. If such structure or premises be unoccupied, the code official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the code official shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

[A] 104.5 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Notices and orders. The code official is authorized to issue such notices or orders as are required to affect compliance with this code in accordance with Section 113.

[A] 104.7 Official records. The code official shall keep official records as required by Sections 104.7.1 through 104.7.5. Such official records shall be retained for not less than 5 years or for as long as the structure or activity to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the code official and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.3; modifications in accordance with Section 104.2.4; and documentation of the final decision of the code official for either shall be in writing and shall be officially recorded in the permanent records of the code official.

[A] 104.7.4 Tests. The code official shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.3.5.

[A] 104.7.5 Fees. The code official shall keep a record of fees collected and refunded in accordance with Section 108.

[A] 104.8 Liability. The code official, member of the Board of Appeals, officer or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

2021 International Fire Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been approved by the fire code official.

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

Revise as follows:

SECTION 104
DUTIES AND POWERS OF THE FIRE CODE OFFICIAL
(Delete entire section and replace as follows)

Add new text as follows:

SECTION 104
DUTIES AND POWERS OF THE FIRE CODE OFFICIAL

[A] 104.1 General. The fire code official is hereby authorized to enforce the provisions of this code.

[A] 104.2 Determination of compliance. The fire code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the fire code official upon request.

[A] 104.2.2 Technical assistance. To determine compliance with this code, the fire code official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

[A] 104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the fire code official. The fire code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the fire safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the fire code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the fire code official shall approve the testing procedures. Tests shall be performed by a party acceptable to the fire code official.

[A] 104.2.3 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

[A] 104.2.3.1 Approval authority. An alternative material, design or method of construction shall be approved where the fire code official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3.2 through 104.2.3.7, as applicable.

[A] 104.2.3.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the fire code official for approval. Where the alternative material, design or method of construction is not approved, the fire code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

[A] 104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the fire code official.

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternative material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and made available for review by the public.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence. The report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the fire code official. The fire code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.3.7 Peer review. The fire code official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the fire code official.

[A] 104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the fire code official shall have the authority to grant modifications for individual cases, provided that the fire code official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen health, life and fire safety requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of fire prevention.

[A] 104.3 Applications and permits. The fire code official is authorized to receive applications, review construction documents and issue permits for construction regulated by this code, issue permits for operations regulated by this code, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the fire code official has reasonable cause to believe that there exists in a structure or on a premises any conditions or violations of this code that make the structure or premises unsafe, dangerous or hazardous, the fire code official shall have the authority to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed on the fire code official by this code. If such structure or premises is occupied, the fire code official shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the fire code official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the fire code official shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the fire code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the fire code official for the purpose of inspection and examination pursuant to this code.

[A] 104.5 Identification. The fire code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Notices and orders. The fire code official is authorized to issue such notices or orders as are required to affect compliance with this code in accordance with Sections 112.1 and 112.2.

[A] 104.7 Official records. The fire code official shall keep official records as required by Sections 104.7.1 through 104.7.6. Such official records shall be retained for not less than 5 years or for as long as the structure or activity to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the fire code official and shall be available for public inspection during business

hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The fire code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

104.7.3 Fire records. The fire code official fire department shall keep a record of fires occurring within its jurisdiction and of facts concerning the same, including statistics as to the extent of such fires and the damage caused thereby, together with other information as required by the fire code official.

[A] 104.7.4 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.3; modifications in accordance with Section 104.2.4; and documentation of the final decision of the fire code official for either shall be in writing and shall be officially recorded in the permanent records of the fire code official.

[A] 104.7.5 Tests. The fire code official shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.3.5.

[A] 104.7.6 Fees. The fire code official shall keep a record of fees collected and refunded in accordance with Section 107.

[A] 104.8 Liability. The fire code official, member of the board of appeals, officer or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not be personally liable, either civilly or criminally, and is hereby relieved from all personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties under the provisions of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The fire code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code; and any officer of the department of fire prevention, acting in good faith and without malice, shall be free from liability for acts performed under any of its provisions or by reason of any act or omission in the performance of official duties in connection therewith.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the fire code official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

104.10 Fire investigations. The fire code official, the fire department or other responsible authority shall have the authority to investigate the cause, origin and circumstances of any fire, explosion or other hazardous condition. Information that could be related to trade secrets or processes shall not be made part of the public record, except as directed by a court of law.

104.10.1 Assistance from other agencies. Police and other enforcement agencies shall have authority to render necessary assistance in the investigation of fires when requested to do so.

104.11 Authority at fires and other emergencies. The fire chief or officer of the fire department in charge at the scene of a fire or other emergency involving the protection of life or property, or any part thereof, shall have the authority to direct such operation as necessary to extinguish or control any fire, perform any rescue operation, investigate the existence of suspected or reported fires, gas leaks or other hazardous conditions or situations, or take any other action necessary in the reasonable performance of duty. In the exercise of such power, the fire chief is authorized to prohibit any person, vehicle, vessel or thing from approaching the scene, and is authorized to remove, or cause to be removed or kept away from the scene, any vehicle, vessel or thing that could impede or interfere with the operations of the fire department and, in the judgment of the fire chief, any person not actually and usefully employed in the extinguishing of such fire or in the preservation of property in the vicinity thereof.

104.11.1 Barricades. The fire chief or officer of the fire department in charge at the scene of an emergency is authorized to place ropes, guards, barricades or other obstructions across any street, alley, place or private property in the vicinity of such operation so as to prevent accidents or interference with the lawful efforts of the fire department to manage and control the situation and to handle fire apparatus.

104.11.2 Obstructing operations. Persons shall not obstruct the operations of the fire department in connection with extinguishment or control of any fire, or actions relative to other emergencies, or disobey any lawful command of the fire chief or officer of the fire department in charge of the emergency, or any part thereof, or any lawful order of a police officer assisting the fire department.

104.11.3 Systems and devices. Persons shall not render a system or device inoperative during an emergency unless by direction of the fire chief or fire department official in charge of the incident.

2021 International Property Maintenance Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been approved by the code official.

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

Revise as follows:

SECTION 105
~~DUTIES AND POWERS OF THE CODE OFFICIAL~~
(Delete entire section and replace as follows)

SECTION 106
~~APPROVAL~~
(Delete entire section and replace as follows)

Add new text as follows:

SECTION 105
DUTIES AND POWERS OF THE CODE OFFICIAL

[A] 105.1 General. The code official is hereby authorized and directed to enforce the provisions of this code.

[A] 105.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 105.2.1 Technical assistance. To determine compliance with this code, the code official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

[A] 105.2.1.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 105.2.1.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 105.2.1.3 Content. The technical opinion and report shall analyze the safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 105.2.1.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Tests shall be performed by a party acceptable to the code official.

[A] 105.2.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that such alternative is not specifically prohibited by this code and has been approved.

[A] 105.2.2.1 Approval authority. An alternative material, design or method of construction shall be approved where the code official finds that the proposed alternative is satisfactory and complies with Sections 105.2.2 through 105.2.2.7, as applicable.

[A] 105.2.2.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 105.2.2.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 105.2.2.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Strength
2. Quality
3. Strength
4. Durability

5. Safety

[A] 105.2.2.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 105.2.2.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict safety performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

[A] 105.2.2.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 105.2.2.6.1 and 105.2.2.6.2.

[A] 105.2.2.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public and made available for review by the public.

[A] 105.2.2.6.2 Other reports. Reports not complying with Section 105.2.2.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.
[A] 105.2.2.6.2 Other reports. Reports not complying with Section 105.2.2.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 105.2.2.7 Peer review. The code official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the code official.

[A] 105.2.3 Modifications. Whenever there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases provided that the code official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements. The details of the written request for and action granting modifications shall be recorded and entered in the department files.

[A] 105.3 Inspections. The code official shall have the authority to conduct inspections, or shall accept reports of inspection by approved agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual.

[A] 105.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or whenever the code official has reasonable cause to believe that there exists in a structure or upon a premises a condition in violation of this code, the code official is authorized to enter the structure or premises at all reasonable times to inspect or perform the duties imposed by this code. If such structure or premises is occupied the code official shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner, owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the code official shall have recourse to every remedy provided by law to secure entry.

[A] 105.4.1 Warrant. Where the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

[A] 105.5 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 105.6 Notices and orders. The code official shall issue all necessary notices or orders to ensure compliance with this code in accordance with Section 111.4.

[A] 105.7 Official records. The code official shall keep official records as required by Sections 105.7.1 through 105.7.5. Such official records shall be retained for not less than 5 years or for as long as the building or structure to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 105.7.1 Approvals. A record of approvals shall be maintained by the code official and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 105.7.2 Inspections. The building official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 105.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 105.2.2; modifications in accordance with Section 105.2.3; and documentation of the final decision of the code official for either shall be in writing and shall be retained in the official records.

[A] 105.7.4 Tests. The code official shall keep a record of tests conducted to comply with Sections 105.2.1.4 and 105.2.2.5.

[A] 105.7.5 Fees. The code official shall keep a record of fees collected and refunded in accordance with Section 104.

[A] 105.8 Liability. The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties.

[A] 105.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by the legal representative of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 105.9 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

[A] 105.9.1 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

2021 International Wildland-Urban Interface Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been approved by the code official.

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

REGISTERED DESIGN PROFESSIONAL. An architect or engineer, registered or licensed to practice professional architecture or engineering, as defined by the statutory requirements of the professional registration laws of the state in which the project is to be constructed.

Revise as follows:

[A] 102.5 ~~104.4~~ Subjects not regulated by this code. Where applicable standards or requirements are not set forth in this code, or are contained within other laws, codes, regulations, ordinances or policies adopted by the jurisdiction, compliance with applicable standards of other nationally recognized safety standards, as *approved*, shall be deemed as prima facie evidence of compliance with the intent of this code. Nothing herein shall derogate from the authority of the code official to determine compliance with codes or standards for those activities or installations within the code official's jurisdiction or responsibility.

[A] 102.6 ~~104.5~~ Matters not provided for. Requirements that are essential for the public safety of an existing or proposed activity, building or structure, or for the safety of the occupants thereof, which are not specifically provided for by this code, shall be determined by the *code official* consistent with the necessity to establish the minimum requirements to safeguard the public health, safety and general welfare.

SECTION 104

AURHORITY OF THE CODE OFFICIAL

(Delete Section 104.1 through 104.3.1, 104.6 and 104.7 and replace as follows)

SECTION 105

COMPLIANCE ALTERNATIVES

(Delete entire section and replace as follows)

Add new text as follows:

SECTION 104

DUTIES AND POWERS OF THE CODE OFFICIAL

[A] 104.1 Powers and duties of the code official. The code official is hereby authorized to enforce the provisions of this code.

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Technical assistance. To determine compliance with this code, the code official is authorized to require the owner, the owner's authorized agent or the person in possession or control of the building or premises to provide a technical opinion and report.

[A] 104.2.1.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 104.2.1.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.1.3 Content. The technical opinion and report shall analyze the fire safety of the design, operation or use of the building or premises, the facilities and appurtenances situated thereon and fuel management to identify and propose necessary recommendations.

[A] 104.2.1.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.2 Alternative materials, design and methods. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

[A] 104.2.2.1 Approval authority. An alternative material, design or method shall be approved where the code official in concurrence with the code official finds that the proposed alternative is satisfactory and complies with Sections 104.2.2.2 through 104.2.2.7, as applicable.

[A] 104.2.2.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.2.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 104.2.2.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

[A] 104.2.2.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.2.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.2.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.2.6.1 and 104.2.2.6.2.

[A] 104.2.2.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternative material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and made available for review by the public.

[A] 104.2.2.6.2 Other reports. Reports not complying with Section 104.2.2.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence. The report shall be prepared by a qualified engineer,

specialist, laboratory or fire safety specialty organization acceptable to the fire code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.2.7 Peer review. The code official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the code official.

[A] 104.2.3 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases provided that the code official shall first find that one or more special individual reasons make enforcement of the strict letter of this code impractical, that the modification is in conformance with the intent and purpose of this code, and that such modification does not lessen health, life and fire safety requirements. The details of the written request and action granting modifications shall be recorded and entered into the files of the code enforcement agency.

[A] 104.3 Applications and permits. The code official is authorized to receive applications, review construction documents and issue permits for construction regulated by this code, issue permits for operations regulated by this code, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the code official has reasonable cause to believe that there exists in a structure or on a premises any conditions or violations that makes such building or premises unsafe, the code official shall have the authority to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed by this code. If such structure or premises is occupied, the code official shall present proper credentials to the occupant and request entry. If such structure or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner, the owner's authorized agent, or other persons having charge or control of the structure or premises and request entry. If such entry is refused, then the code official shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owners, the owner's authorized agent or occupants or persons having charge, care or control of the building or premises, shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

[A] 104.5 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Notices and orders. The code official is authorized to issue such notices or orders as are required to affect compliance with this code in accordance with Section 110.2.

[A] 104.7 Official records. The code official shall keep official records as required by Sections 104.7.1 through 104.7.5. Such official records shall be retained for not less than 5 years or for as long as the structure or activity to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the code official and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.2; modifications in accordance with Section 104.2.3; and documentation of the final decision of the code official for either shall be in writing and shall be officially recorded in the permanent records of the code official.

[A] 104.7.4 Tests. The code official shall keep a record of tests conducted to comply with Sections 104.2.1.4 and 104.2.2.5.

[A] 104.7.5 Fees. The code official shall keep a record of fees collected and refunded in accordance with Section 109.

[A] 104.8 Liability. The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction, in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from all personal liability for damages accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by the legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in an action, suit or proceeding that is instituted in pursuance of the provisions of this code; and any officer of the department of fire prevention, acting in good faith and without malice, shall be free from liability for acts performed under any of its provisions or by reason of any act or omission in the performance of official duties in connection therewith.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Material and equipment reuse. Materials, equipment and devices shall not be reused or reinstalled unless such elements have been reconditioned, tested and placed in good and proper working condition and approved.

[A] 104.10 Other agencies. When requested to do so by the code official, other officials of this jurisdiction shall assist and cooperate with the code official in the discharge of the duties required by this code.

2021 International Zoning Code

Revise as follows:

[A] 104.7 Liability. The code official, ~~or designee,~~ member of the board of adjustment or employee charged with the enforcement of this code, while acting in good faith and without malice in the discharge of the duties ~~described~~ required in this code or other pertinent law or ordinance, shall not be personally liable, either civilly or criminally, and is hereby relieved from personal liability ~~liable~~ for any damage ~~that may accrue~~ accruing to persons or property as a result of an act or by reason of an act or omission in the discharge of such duties.

[A] 104.7.1 Legal defense. ~~A Any~~ suit or criminal complaint ~~brought instituted~~ against the code official or employee because ~~such of an~~ act or omission performed by the code official or employee in the ~~enforcement of any provision of such codes~~ lawful discharge of duties under the ~~provisions of this code~~ or other pertinent laws or ordinances implemented through the enforcement of this code or ~~enforced by the enforcement agency~~ other laws or ordinances implemented through the enforcement of this code shall be defended by the jurisdiction until final termination of such proceedings. ~~Any judgment resulting therefrom shall be assumed by the jurisdiction.~~ ~~The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.~~ This code shall not be construed to relieve from or lessen the responsibility of any person owning, operating or controlling any building or parcel of land for any damages to persons or property caused by defects, nor shall the enforcement agency or its jurisdiction be held as assuming any such liability by reason of the reviews or permits issued under this code.

2021 International Green Construction Code

Revise as follows:

SECTION 104
~~DUTIES AND POWERS OF THE AUTHORITY HAVING JURISDICTION~~
(Delete entire section and replace as follows)

SECTION 105
~~APPROVAL~~
(Delete entire section and replace as follows)

Add new text as follows:

SECTION 104
DUTIES AND POWERS OF THE AUTHORITY HAVING JURISDICTION

104.1 General. The authority having jurisdiction is hereby authorized and directed to enforce the provisions of this code.

104.2 Determination of compliance. The authority having jurisdiction shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code or other applicable codes and ordinances.

104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the authority having jurisdiction upon request.

104.2.2 Technical assistance. To determine compliance with this code, the authority having jurisdiction is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the authority having jurisdiction. The authority having jurisdiction is authorized to require design submittals to be

prepared by, and bear the stamp of, a registered design professional.

104.2.2.3 Content. The technical opinion and report shall analyze the properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the authority having jurisdiction is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the authority having jurisdiction shall approve the testing procedures. Tests shall be performed by a party acceptable to the authority having jurisdiction.

104.2.3 Compliance materials. The authority having jurisdiction shall be permitted to approve specific computer software, worksheets, compliance manuals and other similar materials that meet the intent of this code.

104.2.4 Approved programs. The authority having jurisdiction shall have the authority to deem a national, state or local program as meeting or exceeding this code. Buildings approved in writing by such a program shall be considered to be in compliance with this code.

104.2.4.1 Specific approval. The authority having jurisdiction shall have the authority to approve programs or compliance tools for a specified application, limited scope or specific locale, including approval that is applicable to a specific section or chapter of this code.

104.2.5 Innovative approaches and alternative materials, design, and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design, innovative approach, or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

104.2.5.1 Approval authority. An alternative material, design, innovative approach or method of construction shall be approved where the authority having jurisdiction finds that the proposed alternative is satisfactory and complies with Sections 104.2.5 through 104.2.7, as applicable.

104.2.5.2 Application and disposition. A request to use an alternative material, design, innovative approach or method of construction shall be submitted in writing to the authority having jurisdiction for approval. Where the alternative material, design, innovative approach or method of construction is not approved, the authority having jurisdiction shall respond in writing, stating the reasons the alternative was not approved.

104.2.5.3 Compliance with code intent. An alternative material, design, innovative approach or method of construction shall comply with the intent of the provisions of this code.

104.2.5.4 Equivalency criteria. An alternative material, design, innovative approach or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

104.2.5.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

104.2.5.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the authority having jurisdiction.

104.2.5.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.5.6.1 and 104.2.5.6.2.

104.2.5.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public and made available for review by the public.

104.2.5.6.2 Other reports. Reports not complying with Section 104.2.5.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the authority having jurisdiction. The authority having jurisdiction is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

104.2.5.7 Peer review. The authority having jurisdiction is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the authority having jurisdiction.

104.2.6 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the authority having jurisdiction shall have the authority to grant modifications for individual cases, provided the authority having jurisdiction shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen the minimum requirements of this code. The details of the written request for and granting modifications shall be recorded and entered in the files of the department.

104.3 Enforcement. The authority having jurisdiction shall enforce compliance with the provisions of this code as part of the enforcement of other applicable codes and regulations, including the referenced codes listed in Section 102.4.

104.4 Inspections. The authority having jurisdiction shall have the authority to conduct inspections, as required, to determine code compliance, or the authority having jurisdiction shall have the authority to accept reports of inspection by approved agencies or individuals.

104.5 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the authority having jurisdiction has reasonable cause to believe that there exists in a structure or on a premises any conditions or violations of this code that make the structure or premises unsafe, dangerous or hazardous, the authority having jurisdiction shall have the authority to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed on the authority having jurisdiction by this code. If such structure or premises is occupied, the authority having jurisdiction shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the authority having jurisdiction shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the authority having jurisdiction has recourse to every remedy provided by law to secure entry.

104.5.1 Warrant. Where the authority having jurisdiction has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the authority having jurisdiction for the purpose of inspection and examination pursuant to this code.

104.6 Identification. The authority having jurisdiction shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

104.7 Notices and orders. The authority having jurisdiction shall issue all necessary notices or orders to ensure compliance with this code.

104.8 Official records. The authority having jurisdiction shall keep official records as required by Sections 104.8.1 through 104.8.5. Such official records shall be retained for not less than 5 years or for as long as the building or structure to which such records relate remains in existence, unless otherwise provided by other regulations.

104.8.1 Approvals. A record of approvals shall be maintained by the authority having jurisdiction and shall be available for public inspection during business hours in accordance with applicable laws.

104.8.2 Inspections. The authority having jurisdiction shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

104.8.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.5; modifications in accordance with Section 104.2.6; and documentation of the final decision of the authority having jurisdiction for either shall be in writing and shall be retained in the official records.

104.8.4 Tests. The authority having jurisdiction shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.5.5.

104.8.5 Fees. The authority having jurisdiction shall keep a record of fees collected and refunded in accordance with Section 108.

104.9 Liability. The authority having jurisdiction, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

104.9.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The authority having jurisdiction or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

104.10 Approved materials and equipment. Materials, equipment, devices and innovative approaches approved by the authority having jurisdiction shall be constructed, installed and maintained in accordance with such approval.

104.10.1 Material, product and equipment reuse. Materials, products, equipment and devices shall not be reused unless such elements are in good working condition and approved.

Reason: Section 104 (Section 105 in the IPMC) appears in the IFC, IWUIC, IBC, IEBC, IRC, IgCC and IPMC and contains general requirements for the authority and duties of the code official. Among these authorities and duties is the review and approval of alternate methods. The primary purpose of this code change is to update Section 104 to reflect the current manner that alternate methods and materials are evaluated, and to

differentiate between evaluations from accredited evaluation agencies and evaluations from others, such as engineers. These provisions have basically been the same since the first edition in 2000, with the exception that the section on "Research Reports" was added in 2003. Industry terminology and methods have evolved over the years.

This proposal revises general code enforcement provisions to improve organization, improve clarity, and supplement existing provisions to better align the code text with how the code is commonly applied. The end goal is to provide the same wording and procedures in all of the I-Codes with regard to the Duties and Responsibilities of the Code Official. Some of the codes contain unique provisions applicable to only that code. Those nuances are retained so there are some slight differences, but the formatting will be the same in each code and the language will generally be the same in each code.

As stated earlier, this section has been in the code a long time, and it is believed that it initially envisioned an alternative product or method review and approval process on a project-by-project basis, with substantiating tests and calculations or analyses provided with each permit application. Currently, a more efficient system has evolved where the same product evaluation reports are used in numerous projects, across many jurisdictions, and for many conditions. This evolution causes the need to revise this section to reflect current procedures.

However, the need for designers to be able to apply for one-time approval needs to be maintained, and that is the reason that "research reports" is maintained. In this case, though, when a method or material is not addressed by the code, the code official needs more information on the process that the evaluator used to determine that the method or material complies with the intent of the code.

To achieve the common format, a template is shown below which includes comments on each of the sections. Since the wording in each code is intended to be the same, the outline is not shown for every code, however there is an underline/strikeout version for each code provided. The code change for each code is provided as delete and substitute. This was done because the autoforformatting process in cdpACCESS did not provide a document to easily follow. The underline/strikeout versions show the specific changes.

The following template is from the IBC. The IBC, IFC, IRC, IEBC, IPMC, and IWUIC are formatted the same as this template, however some codes have additional unique provisions, and other codes don't contain all of these sections if they are not appropriate for the code content.

OUTLINE FOR PROPOSED SECTION 104

SECTION 104 DUTIES AND POWERS OF BUILDING OFFICIAL – same title used for each code

104.1 General. – This section has been subdivided with numbered/titled subsections to break up the existing paragraph and specifically state that the code official is authorized to determine compliance with the code. While always implied and applied in this manner, the code never specifically states this important fact.

104.2 Determination of Compliance. – reformatted to identify that when reviewing projects for compliance with the code, the code official can develop policies and procedures. It also specifically states that the developed policies and the project approvals are to be based on the intent of the code.

104.2.1 Listed compliance. – In cases where the code specifies a listing standard, it is common for a code official to accept things listed to that standard without further evaluating whether the standard is germane. When a product listing is appropriate, then the fact that the product is listed and installed in accordance with the listing specifications and the manufacturer's instructions becomes the approval of the product. This section is not included in all codes since not all codes require listed equipment.

104.2.2 Technical assistance. – Nearly all the codes provide for the code official to utilize technical assistance in some form or another. This section is included as a subsection for determining compliance and will be consistent throughout the I-Codes. It is derived from, and replaces, previous text that was originally developed for and limited to hazardous materials related provisions.

104.2.2.1 Cost. – the cost for technical assistance is borne by the applicant or owner. This was previously included in a preceding paragraph and has been separated into its own subsection.

104.2.2.2 Preparer qualifications. – states that the person or agency providing the technical report must be qualified. The code official has the ability to require that the report is stamped by a registered design professional, since not all reports may need to provide this. For example, a hazardous materials classification report often does not include engineering or design. The definition is added to codes that do not currently contain the definition, such as the IWUIC. This was previously included in a preceding paragraph and has been separated into its own subsection. The new text goes beyond simply recommending changes, recognizing that the report may be a source document, as opposed to a review of documentation prepared by others.

104.2.2.3 Content. – the technical report shall include an analysis and any recommended or necessary changes.

104.2.2.4 Tests. – Tests can often provide valuable information. Where a test standard isn't specified by this code or a reference standard, the code official may wish to conduct further evaluation of the suitability of the test method used as a basis. Testing can be performed by an approved agency or by any other party/organization approved by the code official. Proposed provisions for tests are largely derived from existing code text on this topic.

104.2.3 Alternative materials, design and methods of construction and equipment. – All codes make reference to accepting some type of alternative. This section is placed under the general compliance approval section and revised to state that a proposed alternative cannot be something that is specifically prohibited by the code. If ICC members have previously voted to specifically disallow something, alternative methods should not be a means of avoiding such a prohibition. Nevertheless, a code modification would still provide an option to make exceptions for unique cases, as opposed to the door being open for an applicant to end run the intent of the code by presenting an analysis or alternative that suggests an alternative to a prohibition is OK. It is important to note that something not contemplated by the code would not be impacted by this statement. Not contemplated is not the same as a specific prohibition in the code.

104.2.3.1 Approval authority. – if the alternative is acceptable, then it is to be approved by the code official. This is from existing text.

104.2.3.2 Application and disposition. – the submittal for an alternative must be accomplished in writing. If it is not approved, the code official must so state in writing and provide reasons why it was not acceptable. This is largely from existing text, however, the requirement for a written application for alternatives was not previously located in this section, where it is appropriate to reference.

104.2.3.3 Compliance with code intent. – the alternative must comply with the code's intent.

104.2.3.4 Equivalency criteria. – the alternative must provide equivalency to the code's provisions. The list of characteristics to be addressed is included from the current code. The reference to fire-resistance is removed from the list and fire-resistance is included under safety with additional criteria regarding fire characteristics identified in Section 104.2.3.4.1.

104.2.3.4.1 Fire safety equivalency. – this section was added because “fire-resistance” was removed from the list in Section 104.2.3.4 and recognizing that fire-resistance is not the only fire related characteristic to be addressed. Fire-resistance is only one characteristic of safety with respect to fire. This section is added to clarify that the entire issue of performance under fire conditions is the concern. Previously, aspects of fire safety beyond fire resistance would have been evaluated as part of “safety” in the list with no additional guidance on what to consider. Performance under fire conditions also includes equivalency as to how the alternate will perform structurally when exposed to fire.

104.2.3.5 Tests. – this section is added so the code official can ensure that any testing conducted is performed to a scale that adequately

represents the end use of the alternate. This has primarily been added in response to concerns related to Code Change F60-21, which modified Section 2603 to defer alternatives related to fire performance of foam plastics to Section 104.

104.2.3.6 ~~104.11.1~~ Research Reports. This section is relocated and revised to address two different types of reports currently submitted for alternatives.

104.2.3.6.1 Evaluation reports. – This section is added to address reports generate by an approved agency. The definition of “approved agency” was added to several codes in the 2018 editions. The definition is proposed to be revised, as in the IBC, or added as a new definition codes do not contain this definition, as in the IFC. This evaluation report is conducted by an approved agency that is accredited to conduct the tests or evaluations appropriate for the alternative involved. When the applicant provides a product evaluation from an accredited product evaluation agency that uses publicly developed and available criteria for the evaluation, the code official may have increased confidence that the method used for the evaluation does result in a method or material that meets the intent of the code and is at least equivalent to code-prescribed construction. Public development of criteria allows for input from industry experts, the public, and building officials in determining the methods used to evaluate code intent and equivalence, somewhat similar to the code development process where consensus is important. The accreditation ensures that the organization uses a consistent process to perform the evaluations. This section is meant to reflect the current use of evaluation reports from accredited evaluation agencies or organizations.

104.2.3.6.2 Other reports.– this section is added to address reports generated by persons or agencies other than an approved agency. It specifies that the person or agency providing the report must be qualified and must be approved by the code official. The code official has the authority to require the stamp of a registered design professional. When an applicant provides an evaluation from other than an accredited agency, or from a source that does not use publicly developed and available criteria, the code official needs more information in order to perform a proper review. Not only does the code official need to evaluate the product, but also evaluate the method that the applicant has used to determine compliance with code intent and code equivalence. So, in that case, it is proposed that the applicant would also have to provide the criteria that was used to do the evaluation, justification for use of that criteria, and data used for the evaluation, so a complete review can be made.

104.2.3.7 Peer review.– this section is added to address a method of review currently utilized by many jurisdictions. The peer review is an outside, third-party review that is submitted to the code official for use in cases where a jurisdiction may not have qualified resource in-house to perform a sufficient review of an alternative compliance proposal. Again, the peer reviewer must be qualified and approved by the code official.

104.2.4 ~~104.10~~ Modifications. – this section is relocated under the section of compliance. Minor edits occurred to provide consistent language throughout the codes.

104.2.4.1 ~~104.10.1~~ Flood hazard areas. – this section on flood hazard areas only appears in the IBC, IRC and IEBC. This section is relocated to follow the provisions for modifications.

104.3 ~~104.2~~ Applications and permits. – this section is relocated and revised to provide consistent wording.

104.3.1 ~~104.2.1~~ Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas. – this section on flood hazard areas only appears in the IBC, IRC and IEBC. This section is relocated to follow the provisions for modifications.

104.4 ~~104.6~~ Right of entry. – This section is relocated and revised to provide consistent wording. The issue of right of entry is the same with all enforcement issues.

104.4.1 Warrant. – this section was not found in all codes, so it was added to the IBC to provide the ability to utilize a warrant. This function is allowed by the courts and currently utilized by jurisdictions.

104.5 Identification. – no change

104.6 ~~104.3~~ Notices and orders. – relocated and revised for consistent wording.

104.7 ~~Department-Official~~ records. – This section revised to provide consistent wording and is reformatted by creating subsections. Each subsection addresses a different type of record that the is to be retained. This format clarifies that these records are required to be maintained.

104.7.1 Approvals.

104.7.2 Inspections.

104.7.3 Code alternatives and modifications.

104.7.4 Tests.

104.7.5 Fees.

104.8 Liability. – this section deals with protection from liability of the code official. The sections are revised to provide consistent wording throughout all I-Codes.

104.8.1 Legal defense. – this section deals with legal defense for the code official. The sections are revised to provide consistent wording throughout all I-Codes.

104.9 Approved materials and equipment. – no change

104.9.1 ~~Used materials~~ Material and equipment reuse. – this section addresses the reuse of materials and equipment. The section is revised to provide consistent wording throughout the codes to say that the code official must approve any materials to be reused.

~~104.4 Inspections~~. – this section is relocated to 104.2.2. Some of the language in this section is not relocated since those portions are already covered in Section 110.

~~104.10 Modifications~~ – this section is relocated to 104.2.4 for formatting.

~~104.10.1 Flood hazard areas~~ – this section is relocated to 104.2.4.1 for formatting.

~~104.11 Alternative materials, design and methods of construction and equipment.~~ – this section is relocated to 104.2.3 for formatting.

~~104.11.1 Research reports.~~ – this section is relocated to 104.2.3.6 for formatting.

~~104.11.2 Tests.~~ – this section is relocated 104.2.2.4, 104.2.3.5 and 104.8.4 for formatting.

Additional unique changes are as follows:

1. Sections in IWUIC 105 are relocated to IWUIC 104, so Section 105 is deleted. This also occurs in the IgCC and IPMC.
2. The IZC has a completely different approach application and therefore, only the duplicated sections in the IZC are revised.
3. IWUIC 104.4 Subjects Not Regulated by this Code is relocated to Section 102.5 and IWUIC 104.5 Matters Not Provided For is relocated to Section 102.6 for consistency with IFC format. A minor change was made to the definition of “approved agency” which removes the repeat of the word that is to be defined, agency, and replaces it with organization. Another revision allows the agency to furnish product evaluation in addition to certification, since evaluation and certification are two different things. Evaluation is for materials and methods not addressed by the code, and certification is for materials and methods that are addressed by the code. It is intended that all I-Codes will be formatted in this fashion. There was not sufficient time to process these revisions through the PMG CAC, so only the codes under the review of the Fire CAC and Building CAC are submitted at this time. The revisions for the other codes will occur during Public Comment.

A strikeout/underline version of each code follows to identify specific revisions.

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>. The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>.

The proposal in strikeout and underline text format can be viewed here:

<https://www.cdaccess.com/proposal/8550/25693/files/download/2955/>

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This proposal simply reformats the code sections and provides consistency across the codes.

ADM13-22 Part II

IRC: SECTION 202, R104

Proponents: Robert Marshall, representing FCAC (fcac@iccsafe.org); Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Jeffrey Shapiro, representing Lake Travis Fire Rescue (jeff.shapiro@intlcodeconsultants.com)

Primary sections and titles shown as deleted include the deletion of all sections and subsections within them. For clarity, the full text of these deletions are not shown.

2021 International Residential Code

Revise as follows:

[RB] APPROVED AGENCY. An established and recognized ~~agency organization~~ that is regularly engaged in conducting tests, furnishing inspection services or furnishing product ~~evaluation or certification, and where such organization has been approved by the building official.~~

Add new definition as follows:

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

Revise as follows:

SECTION R104 **~~DUTIES AND POWERS OF THE BUILDING OFFICIAL~~** *(Delete entire section and replace as follows)*

Add new text as follows:

SECTION R104 **DUTIES AND POWERS OF THE BUILDING OFFICIAL**

R104.1 General. The building official is hereby authorized and directed to enforce the provisions of this code.

R104.2 Determination of compliance. The building official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

R104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the building official upon request.

R104.2.2 Technical assistance. To determine compliance with this code, the building official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

R104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

R104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the building official. The building official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

R104.2.2.3 Content. The technical opinion and report shall analyze the safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

R104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the building official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the building official shall approve the testing procedures. Tests shall be performed by a party acceptable to the building official.

R104.2.3 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such

alternative is not specifically prohibited by this code and has been approved.

R104.2.3.1 Approval authority. An alternative material, design or method of construction shall be approved where the building official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3 through 104.2.3.7, as applicable.

R104.2.3.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the building official for approval. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons the alternative was not approved.

R104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

R104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

R104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to flame spread, heat release rate, heat of combustion, smoke development and fire resistance.

R104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the building official.

R104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections R104.2.3.6.1 and R104.2.3.6.2.

R104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public and made available for review by the public.

R104.2.3.6.2 Other reports. Reports not complying with Section R104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the building official. The building official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

R104.2.3.7 Peer review. The building official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the building official.

R104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the building official shall have the authority to grant modifications for individual cases, provided the building official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that the modification does not lessen health, life and fire safety or structural requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of building safety.

R104.2.4.1 Flood hazard areas. The building official shall not grant modifications to any provisions required in flood hazard areas as established by Table R301.2 unless a determination has been made that:

1. There is good and sufficient cause showing that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section R322 inappropriate.
2. Failure to grant the modification would result in exceptional hardship by rendering the lot undevelopable.
3. The granting of modification will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. The modification is the minimum necessary to afford relief, considering the flood hazard.
5. Written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation and stating that construction below the design flood elevation increases risks to life and property, has been submitted to the applicant.

R104.3 Applications and permits. The building official shall receive applications, review construction documents and issue permits for the erection and alteration of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

R104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the building official has reasonable cause to believe that there exists in a structure or upon a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the building official is authorized to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed by this code. If such structure or premises is occupied, the building official shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the building official shall first make a reasonable effort to locate the owner, the owner's authorized agent, or other person having charge or control of the structure or premises and request entry. If entry is refused, the building official shall have recourse to every remedy provided by law to secure entry.

R104.4.1 Warrant. Where the building code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the building code official for the purpose of inspection and examination pursuant to this code.

R104.5 Identification. The building official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

R104.6 Notices and orders. The building official shall issue necessary notices or orders to ensure compliance with this code in accordance with Section R113.2.

R104.7 Official records. The building official shall keep official records as required in Sections R104.7.1 through R104.7.5. Such official records shall be retained for not less than 5 years or for as long as the building or structure to which such records relate remains in existence, unless otherwise provided by other regulations.

R104.7.1 Approvals. A record of approvals shall be maintained by the building official and shall be available for public inspection during business hours in accordance with applicable laws.

R104.7.2 Inspections. The building official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

R104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section R104.2.3; modifications in accordance with Section R104.2.4; and documentation of the final decision of the building official for either shall be in writing and shall be retained in the official records.

R104.7.4 Tests. The building official shall keep a record of tests conducted to comply with Sections R104.2.2.4 and R104.2.3.5.

R104.7.5 Fees. The building official shall keep a record of fees collected and refunded in accordance with Section R108.

R104.8 Liability. The building official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

R104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties and under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The building official or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

R104.9 Approved materials and equipment. Materials, equipment and devices approved by the building official shall be constructed and installed in accordance with such approval.

R104.9.1 Materials and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

Reason: Section 104 (Section 105 in the IPMC) appears in the IFC, IWUIC, IBC, IEBC, IRC, IgCC and IPMC and contains general requirements for the authority and duties of the code official. Among these authorities and duties is the review and approval of alternate methods. The primary purpose of this code change is to update Section 104 to reflect the current manner that alternate methods and materials are evaluated, and to differentiate between evaluations from accredited evaluation agencies and evaluations from others, such as engineers. These provisions have basically been the same since the first edition in 2000, with the exception that the section on "Research Reports" was added in 2003. Industry terminology and methods have evolved over the years.

This proposal revises general code enforcement provisions to improve organization, improve clarity, and supplement existing provisions to better align the code text with how the code is commonly applied. The end goal is to provide the same wording and procedures in all of the I-Codes with regard to the Duties and Responsibilities of the Code Official. Some of the codes contain unique provisions applicable to only that code. Those nuances are retained so there are some slight differences, but the formatting will be the same in each code and the language will generally be the

same in each code.

As stated earlier, this section has been in the code a long time, and it is believed that it initially envisioned an alternative product or method review and approval process on a project-by-project basis, with substantiating tests and calculations or analyses provided with each permit application. Currently, a more efficient system has evolved where the same product evaluation reports are used in numerous projects, across many jurisdictions, and for many conditions. This evolution causes the need to revise this section to reflect current procedures.

However, the need for designers to be able to apply for one-time approval needs to be maintained, and that is the reason that “research reports” is maintained. In this case, though, when a method or material is not addressed by the code, the code official needs more information on the process that the evaluator used to determine that the method or material complies with the intent of the code.

To achieve the common format, a template is shown below which includes comments on each of the sections. Since the wording in each code is intended to be the same, the outline is not shown for every code, however there is an underline/strikeout version for each code provided. The code change for each code is provided as delete and substitute. This was done because the autoformatting process in cdpACCESS did not provide a document to easily follow. The underline/strikeout versions show the specific changes.

The following template is from the IBC. The IBC, IFC, IRC, IEBC, IPMC, and IWUIC are formatted the same as this template, however some codes have additional unique provisions, and other codes don't contain all of these sections if they are not appropriate for the code content.

OUTLINE FOR PROPOSED SECTION 104

SECTION 104 DUTIES AND POWERS OF BUILDING OFFICIAL – same title used for each code

104.1 General. – This section has been subdivided with numbered/titled subsections to break up the existing paragraph and specifically state that the code official is authorized to determine compliance with the code. While always implied and applied in this manner, the code never specifically states this important fact.

104.2 Determination of Compliance. – reformatted to identify that when reviewing projects for compliance with the code, the code official can develop policies and procedures. It also specifically states that the developed policies and the project approvals are to be based on the intent of the code.

104.2.1 Listed compliance. – In cases where the code specifies a listing standard, it is common for a code official to accept things listed to that standard without further evaluating whether the standard is germane. When a product listing is appropriate, then the fact that the product is listed and installed in accordance with the listing specifications and the manufacturer's instructions becomes the approval of the product. This section is not included in all codes since not all codes require listed equipment.

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goes beyond simply recommending changes, recognizing that the report may be a source document, as opposed to a review of documentation prepared by others.

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104.2.2.4 Tests. – Tests can often provide valuable information. Where a test standard isn't specified by this code or a reference standard, the code official may wish to conduct further evaluation of the suitability of the test method used as a basis. Testing can be performed by an approved agency or by any other party/organization approved by the code official. Proposed provisions for tests are largely derived from existing code text on this topic.

104.2.3 ~~104.11~~ Alternative materials, design and methods of construction and equipment. – All codes make reference to accepting some type of alternative. This section is placed under the general compliance approval section and revised to state that a proposed alternative cannot be something that is specifically prohibited by the code. If ICC members have previously voted to specifically disallow something, alternative methods should not be a means of avoiding such a prohibition. Nevertheless, a code modification would still provide an option to make exceptions for unique cases, as opposed to the door being open for an applicant to end run the intent of the code by presenting an analysis or alternative that suggests an alternative to a prohibition is OK. It is important to note that something not contemplated by the code would not be impacted by this statement. Not contemplated is not the same as a specific prohibition in the code.

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104.2.3.3 Compliance with code intent. – the alternative must comply with the code's intent.

104.2.3.4 Equivalency criteria. – the alternative must provide equivalency to the code's provisions. The list of characteristics to be addressed is included from the current code. The reference to fire-resistance is removed from the list and fire-resistance is included under safety with additional criteria regarding fire characteristics identified in Section 104.2.3.4.1.

104.2.3.4.1 Fire safety equivalency. – this section was added because “fire-resistance” was removed from the list in Section 104.2.3.4 and recognizing that fire-resistance is not the only fire related characteristic to be addressed. Fire-resistance is only one characteristic of safety with respect to fire. This section is added to clarify that the entire issue of performance under fire conditions is the concern. Previously, aspects of fire safety beyond fire resistance would have been evaluated as part of “safety” in the list with no additional guidance on what to consider. Performance under fire conditions also includes equivalency as to how the alternate will perform structurally when exposed to fire.

104.2.3.5 Tests. – this section is added so the code official can ensure that any testing conducted is performed to a scale that adequately represents the end use of the alternate. This has primarily been added in response to concerns related to Code Change F60-21, which modified Section 2603 to defer alternatives related to fire performance of foam plastics to Section 104.

104.2.3.6 ~~104.11.1~~ Research Reports. This section is relocated and revised to address two different types of reports currently submitted for alternatives.

104.2.3.6.1 Evaluation reports. – This section is added to address reports generate by an approved agency. The definition of “approved agency” was added to several codes in the 2018 editions. The definition is proposed to be revised, as in the IBC, or added as a new definition codes do not contain this definition, as in the IFC. This evaluation report is conducted by an approved agency that is accredited to conduct the tests or evaluations appropriate for the alternative involved. When the applicant provides a product evaluation from an accredited product evaluation agency that uses publicly developed and available criteria for the evaluation, the code official may have increased confidence that the method used for the evaluation does result in a method or material that meets the intent of the code and is at least equivalent to code-prescribed construction. Public development of criteria allows for input from industry experts, the public, and building officials in determining the methods used to evaluate code intent and equivalence, somewhat similar to the code development process where consensus is important. The accreditation ensures that the organization uses a consistent process to perform the evaluations. This section is meant to reflect the current use of evaluation reports from accredited evaluation agencies or organizations.

104.2.3.6.2 Other reports.– this section is added to address reports generated by persons or agencies other than an approved agency. It specifies that the person or agency providing the report must be qualified and must be approved by the code official. The code official has the authority to require the stamp of a registered design professional. When an applicant provides an evaluation from other than an accredited agency, or from a source that does not use publicly developed and available criteria, the code official needs more information in order to perform a proper review. Not only does the code official need to evaluate the product, but also evaluate the method that the applicant has used to determine compliance with code intent and code equivalence. So, in that case, it is proposed that the applicant would also have to provide the criteria that was used to do the evaluation, justification for use of that criteria, and data used for the evaluation, so a complete review can be made.

104.2.3.7 Peer review.– this section is added to address a method of review currently utilized by many jurisdictions. The peer review is an outside, third-party review that is submitted to the code official for use in cases where a jurisdiction may not have qualified resource in-house to perform a sufficient review of an alternative compliance proposal. Again, the peer reviewer must be qualified and approved by the code official.

104.2.4 ~~104.10~~ Modifications. – this section is relocated under the section of compliance. Minor edits occurred to provide consistent language throughout the codes.

104.2.4.1 ~~104.10.1~~ Flood hazard areas. – this section on flood hazard areas only appears in the IBC, IRC and IEBC. This section is relocated to follow the provisions for modifications.

104.3 ~~104.2~~ Applications and permits. – this section is relocated and revised to provide consistent wording.

104.3.1 ~~104.2.1~~ Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas. – this section on flood hazard areas only appears in the IBC, IRC and IEBC. This section is relocated to follow the provisions for modifications.

104.4 ~~104.6~~ Right of entry. – This section is relocated and revised to provide consistent wording. The issue of right of entry is the same with all enforcement issues.

104.4.1 Warrant. – this section was not found in all codes, so it was added to the IBC to provide the ability to utilize a warrant. This function is allowed by the courts and currently utilized by jurisdictions.

104.5 Identification. – no change

~~104.6~~ ~~104.3~~ Notices and orders. – relocated and revised for consistent wording.

104.7 ~~Department-Official~~ records. – This section revised to provide consistent wording and is reformatted by creating subsections. Each subsection addresses a different type of record that the is to be retained. This format clarifies that these records are required to be maintained.

104.7.1 Approvals.

104.7.2 Inspections.

104.7.3 Code alternatives and modifications.

104.7.4 Tests.

104.7.5 Fees.

104.8 Liability. – this section deals with protection from liability of the code official. The sections are revised to provide consistent wording throughout all I-Codes.

104.8.1 Legal defense. – this section deals with legal defense for the code official. The sections are revised to provide consistent wording throughout all I-Codes.

104.9 Approved materials and equipment. – no change

104.9.1 ~~Used materials~~ Material and equipment reuse. – this section addresses the reuse of materials and equipment. The section is revised to provide consistent wording throughout the codes to say that the code official must approve any materials to be reused.

~~104.4 Inspections.~~ – this section is relocated to 104.2.2. Some of the language in this section is not relocated since those portions are already covered in Section 110.

~~104.10 Modifications~~ – this section is relocated to 104.2.4 for formatting.

~~104.10.1 Flood hazard areas~~ – this section is relocated to 104.2.4.1 for formatting.

~~104.11 Alternative materials, design and methods of construction and equipment.~~ – this section is relocated to 104.2.3 for formatting.

~~104.11.1 Research reports.~~ – this section is relocated to 104.2.3.6 for formatting.

~~104.11.2 Tests.~~ – this section is relocated 104.2.2.4, 104.2.3.5 and 104.8.4 for formatting.

Additional unique changes are as follows:

1. Sections in IWUIC 105 are relocated to IWUIC 104, so Section 105 is deleted. This also occurs in the IgCC and IPMC.
2. The IZC has a completely different approach application and therefore, only the duplicated sections in the IZC are revised.
3. IWUIC 104.4 Subjects Not Regulated by this Code is relocated to Section 102.5 and IWUIC 104.5 Matters Not Provided For is relocated to Section 102.6 for consistency with IFC format. A minor change was made to the definition of “approved agency” which removes the repeat of the word that is to be defined, agency, and replaces it with organization. Another revision allows the agency to furnish product evaluation in addition to certification, since evaluation and certification are two different things. Evaluation is for materials and methods not addressed by the code, and certification is for materials and methods that are addressed by the code. It is intended that all I-Codes will be formatted in this fashion. There was not sufficient time to process these revisions through the PMG CAC, so only the codes under the review of the Fire CAC and Building CAC are submitted at this time. The revisions for the other codes will occur during Public Comment.

A strikeout/underline version of each code follows to identify specific revisions.

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>. The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>.

The proposal in strikeout and underline text format can be viewed here:

<https://www.cdpassess.com/proposal/8550/25693/files/download/2955/>

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This proposal simply reformats the code sections and provides consistency across the codes.

ADM14-22

IMC: SECTION 104, 202; IFGC: SECTION 104, SECTION 105, 202; IPC: SECTION 104, 202; ISPSC: SECTION 104, 202; IPSDC: SECTION 104, 202

Proponents: Kevin Scott, representing KH Scott & Associates LLC (khscottassoc@gmail.com)

Primary sections and titles shown as deleted include the deletion of all sections and subsections within them. For clarity, the full text of these deletions are not shown.

2021 International Mechanical Code

Revise as follows:

[A] APPROVED AGENCY. An established and recognized agency organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such agency organization has been approved by the code official.

Add new definition as follows:

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

Revise as follows:

~~SECTION 104 DUTIES AND POWERS OF THE CODE OFFICIAL (Delete entire section and replace as follows)~~

Add new text as follows:

SECTION 104 DUTIES AND POWERS OF THE CODE OFFICIAL

[A] 104.1 General. The code official is hereby authorized and directed to enforce the provisions of this code.

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code or other applicable codes and ordinances.

104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.

[A] 104.2.2 Technical assistance. To determine compliance with this code, the code official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

[A] 104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by and bear the stamp of a registered design professional.

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

[A] 104.2.3.1 Approval authority. An alternative material, design or method of construction shall be approved where the code official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3 through 104.2.3.7, as applicable.

[A] 104.2.3.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

[A] 104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public and made available for review by the public.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.3.7 Peer review. The code official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the code official.

[A] 104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases provided that the code official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen health, accessibility, life and fire safety or structural requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of building safety.

[A] 104.2.4.1 Flood hazard areas. The code official shall not grant modifications to any provision required in flood hazard areas as established by Section 1612.3 unless a determination has been made that:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section 1612 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.
5. Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits for the

erection, and alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] 104.3.1 Determination of substantially improved or substantially damaged existing buildings and structures in flood hazard areas. For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures located in flood hazard areas, the code official shall determine if the proposed work constitutes substantial improvement or repair of substantial damage. Where the code official determines that the proposed work constitutes substantial improvement or repair of substantial damage, and where required by this code, the code official shall require the building to meet the requirements of Section 1612 or Section R322 of the International Residential Code, as applicable.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the code official has reasonable cause to believe that there exists in a structure or on a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the code official is authorized to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed by this code. If such structure or premises is occupied, the code official shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the code official shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

[A] 104.5 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Notices and orders. The code official shall issue necessary notices or orders to ensure compliance with this code in accordance with Section 114.

[A] 104.7 Official records. The code official shall keep official records as required by Sections 104.7.1 through 104.7.5. Such official records shall be retained for not less than 5 years or for as long as the building or structure to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the code official and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.3; modifications in accordance with Section 104.2.4; and documentation of the final decision of the code official for either shall be in writing and shall be retained in the official records.

[A] 104.7.4 Tests. The code official shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.3.5.

[A] 104.7.5 Fees. The code official shall keep a record of fees collected and refunded in accordance with Section 109.

[A] 104.8 Liability. The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

2021 International Fuel Gas Code

Revise as follows:

[A] APPROVED AGENCY. An established and recognized agency organization that is regularly engaged in conducting tests, furnishing

inspection services or furnishing evaluation or certification, where such agency-organization has been *approved* by the *code official*.

Add new definition as follows:

PEER REVIEW. An independent and objective technical review conducted by and approved third party.

Revise as follows:

SECTION 104
~~DUTIES AND POWERS OF THE CODE OFFICIAL~~
(Delete entire section and replace as follows)

SECTION 105
APPROVAL
(Delete entire section and replace as follows)

Add new text as follows:

SECTION 104
DUTIES AND POWERS OF THE CODE OFFICIAL

[A] 104.1 General. The code official is hereby authorized and directed to enforce the provisions of this code.

[A] 104.2 Determination of Compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.

[A] 104.2.2 Technical assistance. To determine compliance with this code, the code official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

[A] 104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by and bear the stamp of a registered design professional.

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3 Alternative materials, design and methods of construction equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

[A] 104.2.3.1 Approved authority. An alternative material, design or method of construction shall be approved where the code official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3 through 104.2.3.7, as applicable.

[A] 104.2.3.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

[A] 104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public and made available for review by the public.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.3.7 Peer review. The code official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the code official.

[A] 104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases provided that the code official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen health, accessibility, life and fire safety or structural requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of building safety.

[A] 104.2.4.1 Flood Hazard Areas. The code official shall not grant modifications to any provision required in flood hazard areas as established by Section 1612.3 unless a determination has been made that:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section 1612 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.
5. Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits for the erection, and alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] 104.3.1 Determination of substantially damaged existing buildings and structures in flood hazard areas. For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures located in flood hazard areas, the code official shall determine if the proposed work constitutes substantial improvement or repair of substantial damage. Where the code official determines that the proposed work constitutes substantial improvement or repair of substantial damage, and where required by this code, the code official shall require the building to meet the requirements of Section 1612 or Section R322 of the International Residential Code, as applicable.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the code official has reasonable cause to believe that there exists in a structure or on a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the code official is authorized to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed by this code. If such structure or premises is occupied, the code official shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the code official shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

[A] 104.5 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Notices and orders. The code official shall issue necessary notices or orders to ensure compliance with this code in accordance with Section 114.

[A] 104.7 Official records. The code official shall keep official records as required by Sections 104.7.1 through 104.7.5. Such official records shall be retained for not less than 5 years or for as long as the building or structure to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the code official and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.3; modifications in accordance with Section 104.2.4; and documentation of the final decision of the code official for either shall be in writing and shall be retained in the official records.

[A] 104.7.4 Tests. The code official shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.3.5.

[A] 104.7.4 Fees. The code official shall keep a record of fees collected and refunded in accordance with Section 109.

[A] 104.8 Liability. The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Materials and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

2021 International Plumbing Code

Revise as follows:

[A] APPROVED AGENCY. An established and recognized ~~agency~~ organization that is regularly engaged in conducting tests or furnishing inspection services, or furnishing product evaluation or certification where such ~~agency~~ organization has been *approved* by the code official.

Add new definition as follows:

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

Revise as follows:

SECTION 104 DUTIES AND POWERS OF THE CODE OFFICIAL

(Delete entire section and replace as follows)

Add new text as follows:

SECTION 104
DUTIES AND POWERS OF THE CODE OFFICIAL

[A] 104.1 General. The code official is hereby authorized and directed to enforce the provisions of this code.

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.

[A] 104.2.2 Technical assistance. To determine compliance with this code, the code official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

[A] 104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by and bear the stamp of a registered design professional.

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

[A] 104.2.3.1 Approval authority. An alternative material, design or method of construction shall be approved where the code official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3 through 104.2.3.7, as applicable.

[A] 104.2.3.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

[A] 104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public and made available for review by the public.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.3.7 Peer review. The code official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the code official.

[A] 104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases provided that the code official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen health, accessibility, life and fire safety or structural requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of building safety.

[A] 104.2.4.1 Flood hazard areas. The code official shall not grant modifications to any provision required in flood hazard areas as established by Section 1612.3 unless a determination has been made that:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section 1612 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.
5. Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits for the erection, and alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] 104.3.1 Determination of substantially damaged existing buildings and structures in flood hazard areas. For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures located in flood hazard areas, the code official shall determine if the proposed work constitutes substantial improvement or repair of substantial damage. Where the code official determines that the proposed work constitutes substantial improvement or repair of substantial damage, and where required by this code, the code official shall require the building to meet the requirements of Section 1612 or Section R322 of the International Residential Code, as applicable.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the code official has reasonable cause to believe that there exists in a structure or on a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the code official is authorized to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed by this code. If such structure or premises is occupied, the code official shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the code official shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

[A] 104.5 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Notices and orders. The code official shall issue necessary notices or orders to ensure compliance with this code in accordance with Section 114.

[A] 104.7 Official records. The code official shall keep official records as required by Sections 104.7.1 through 104.7.5. Such official records shall be retained for not less than 5 years or for as long as the building or structure to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the code official and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.3; modifications in accordance with Section 104.2.4; and documentation of the final decision of the code official for either shall be in writing and shall be retained in the official records.

[A] 104.7.4 Tests. The code official shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.3.5.

[A] 104.7.5 Fees. The code official shall keep a record of fees collected and refunded in accordance with Section 109.

[A] 104.8 Liability. The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

2021 International Swimming Pool and Spa Code

Revise as follows:

[A] APPROVED AGENCY. An established and recognized ~~agency organization~~ regularly engaged in conducting tests or furnishing inspection services, or furnishing product ~~evaluation or certification~~ where such ~~agency organization~~ has been *approved* by the *code official*.

Add new definition as follows:

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

Add new text as follows:

REGISTERED DESIGN PROFESSIONAL. An architect or engineer, registered or licensed to practice professional architecture or engineering, as defined by the statutory requirements of the professional registration laws of the state in which the project is to be constructed.

Revise as follows:

SECTION 104 **DUTIES AND POWERS OF THE CODE OFFICIAL** *(Delete entire section and replace as follows)*

Add new text as follows:

SECTION 104 **DUTIES AND POWERS OF THE CODE OFFICIAL**

[A] 104.1 General. The code official is hereby authorized and directed to enforce the provisions of this code.

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations,

policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.

[A] 104.2.2 Technical assistance. To determine compliance with this code, the code official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

[A] 104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by and bear the stamp of a registered design professional.

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative is not specifically prohibited by this code and has been approved.

[A] 104.2.3.1 Approval authority. An alternative material, design or method of construction shall be approved where the code official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3 through 104.2.3.7, as applicable.

[A] 104.2.3.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

[A] 104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public and made available for review by the public.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.3.7 Peer review. The code official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the code official.

[A] 104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases provided that the code official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen health, accessibility, life and fire safety or structural requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of building safety.

[A] 104.2.4.1 Flood hazard areas. The code official shall not grant modifications to any provision required in flood hazard areas as established by Section 1612.3 unless a determination has been made that:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section 1612 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.
5. Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits for the erection, and alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] 104.3.1 Determination of substantially damaged existing buildings and structures in flood hazard areas. For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures located in flood hazard areas, the code official shall determine if the proposed work constitutes substantial improvement or repair of substantial damage. Where the code official determines that the proposed work constitutes substantial improvement or repair of substantial damage, and where required by this code, the code official shall require the building to meet the requirements of Section 1612 or Section R322 of the International Residential Code, as applicable.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the code official has reasonable cause to believe that there exists in a structure or on a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the code official is authorized to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed by this code. If such structure or premises is occupied, the code official shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the code official shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

[A] 104.5 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Notice and orders. The code official shall issue necessary notices or orders to ensure compliance with this code in accordance with Section 114.

[A] 104.7 Official records. The code official shall keep official records as required by Sections 104.7.1 through 104.7.5. Such official records shall be retained for not less than 5 years or for as long as the building or structure to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the code official and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings

and disposition of each.

[A] 104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.3; modifications in accordance with Section 104.2.4; and documentation of the final decision of the code official for either shall be in writing and shall be retained in the official records.

[A] 104.7.4 Tests. The code official shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.3.5.

[A] 104.7.5 Fees. The code official shall keep a record of fees collected and refunded in accordance with Section 109.

[A] 104.8 Liability. The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties under the provisions of this code or other laws or ordinances implemented through the enforcement of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

2021 International Private Sewage Disposal Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been approved by the code official.

PEER REVIEW. An independent and objective technical review conducted by an approved third party.

Revise as follows:

SECTION 104 **~~DUTIES AND POWERS OF THE CODE OFFICIAL~~** *(Delete entire section and replace as follows)*

Add new text as follows:

SECTION 104 **DUTIES AND POWERS OF THE CODE OFFICIAL**

[A] 104.1 General. The code official is hereby authorized and directed to enforce the provisions of this code.

[A] 104.2 Determination of compliance. The code official shall have the authority to determine compliance with this code, to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of this code's provisions. Such interpretations, policies, procedures, rules and regulations:

1. Shall be in compliance with the intent and purpose of this code.
2. Shall not have the effect of waiving requirements specifically provided for in this code.

[A] 104.2.1 Listed compliance. Determination of compliance for anything required by this code, or a reference standard, to be listed shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.

[A] 104.2.2 Technical assistance. To determine compliance with this code, the code official is authorized to require the owner or owner's authorized agent to provide a technical opinion and report.

[A] 104.2.2.1 Cost. A technical opinion and report shall be provided without charge to the jurisdiction.

[A] 104.2.2.2 Preparer qualifications. The technical opinion and report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by and bear the stamp of a

registered design professional.

[A] 104.2.2.3 Content. The technical opinion and report shall analyze the safety properties of the design, operation or use of the building or premises and the facilities and appurtenances situated thereon, to identify and propose necessary recommendations.

[A] 104.2.2.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, the code official is authorized to require tests as evidence of compliance. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized test standards, the code official shall approve the testing procedures. Tests shall be performed by a party acceptable to the code official.

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[A] 104.2.3.1 Approval authority. An alternative material, design or method of construction shall be approved where the code official finds that the proposed alternative is satisfactory and complies with Sections 104.2.3 through 104.2.3.7, as applicable.

[A] 104.2.3.2 Application and disposition. A request to use an alternative material, design or method of construction shall be submitted in writing to the code official for approval. Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons the alternative was not approved.

[A] 104.2.3.3 Compliance with code intent. An alternative material, design or method of construction shall comply with the intent of the provisions of this code.

[A] 104.2.3.4 Equivalency criteria. An alternative material, design or method of construction shall, for the purpose intended, be not less than the equivalent of that prescribed in this code with respect to all of the following, as applicable:

1. Quality
2. Strength
3. Effectiveness
4. Durability
5. Safety

[A] 104.2.3.4.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.2.3.5 Tests. Tests conducted to demonstrate equivalency in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

[A] 104.2.3.6 Reports. Supporting documentation, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall comply with Sections 104.2.3.6.1 and 104.2.3.6.2.

[A] 104.2.3.6.1 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and product evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public and made available for review by the public.

[A] 104.2.3.6.2 Other reports. Reports not complying with Section 104.2.3.6.1 shall describe criteria, including but not limited to any referenced testing or analysis, used to determine compliance with code intent and justify code equivalence, including but not limited to any referenced testing or analysis. The report shall be prepared by a qualified engineer, specialist, laboratory or specialty organization acceptable to the code official. The code official is authorized to require design submittals to be prepared by, and bear the stamp of, a registered design professional.

[A] 104.2.3.7 Peer review. The code official is authorized to require submittal of a peer review report in conjunction with a request to use an alternative material, design or method of construction, prepared by a peer reviewer that is approved by the code official.

[A] 104.2.4 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the code official shall have the authority to grant modifications for individual cases provided that the code official shall first find that one or more special individual reasons make the strict letter of this code impractical, that the modification is in compliance with the intent and purpose of this code, and that such modification does not lessen health, accessibility, life and fire safety or structural requirements. The details of the written request for and action granting modifications shall be recorded and entered in the files of the department of building safety.

[A] 104.2.4.1 Flood hazard areas. The code official shall not grant modifications to any provision required in flood hazard areas as established by Section 1612.3 unless a determination has been made that:

1. A showing of good and sufficient cause that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section 1612 inappropriate.
2. A determination that failure to grant the variance would result in exceptional hardship by rendering the lot undevelopable.
3. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. A determination that the variance is the minimum necessary to afford relief, considering the flood hazard.
5. Submission to the applicant of written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation, and stating that construction below the design flood elevation increases risks to life and property.

[A] 104.3 Applications and permits. The code official shall receive applications, review construction documents and issue permits for the erection, and alteration, demolition and moving of buildings and structures, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] 104.3.1 Determination of substantially damaged existing buildings and structures in flood hazard areas. For applications for reconstruction, rehabilitation, repair, alteration, addition or other improvement of existing buildings or structures located in flood hazard areas, the code official shall determine if the proposed work constitutes substantial improvement or repair of substantial damage. Where the code official determines that the proposed work constitutes substantial improvement or repair of substantial damage, and where required by this code, the code official shall require the building to meet the requirements of Section 1612 or Section R322 of the International Residential Code, as applicable.

[A] 104.4 Right of entry. Where it is necessary to make an inspection to enforce the provisions of this code, or where the code official has reasonable cause to believe that there exists in a structure or on a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the code official is authorized to enter the structure or premises at all reasonable times to inspect or to perform the duties imposed by this code. If such structure or premises is occupied, the code official shall present credentials to the occupant and request entry. If such structure or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the code official shall have recourse to every remedy provided by law to secure entry.

[A] 104.4.1 Warrant. Where the code official has first obtained a proper inspection warrant or other remedy provided by law to secure entry, an owner, the owner's authorized agent or occupant or person having charge, care or control of the building or premises shall not fail or neglect, after proper request is made as herein provided, to permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

104.5 Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] 104.6 Notices and ordet. The code official shall issue necessary notices or orders to ensure compliance with this code in accordance with Section 114.

[A] 104.7 Official records. The code official shall keep official records as required by Sections 104.7.1 through 104.7.5. Such official records shall be retained for not less than 5 years or for as long as the building or structure to which such records relate remains in existence, unless otherwise provided by other regulations.

[A] 104.7.1 Approvals. A record of approvals shall be maintained by the code official and shall be available for public inspection during business hours in accordance with applicable laws.

[A] 104.7.2 Inspections. The code official shall keep a record of each inspection made, including notices and orders issued, showing the findings and disposition of each.

[A] 104.7.3 Code alternatives and modifications. Application for alternative materials, design and methods of construction and equipment in accordance with Section 104.2.3; modifications in accordance with Section 104.2.4; and documentation of the final decision of the code official for either shall be in writing and shall be retained in the official records.

[A] 104.7.4 Tests. The code official shall keep a record of tests conducted to comply with Sections 104.2.2.4 and 104.2.3.5.

[A] 104.7.5 Fees. The code official shall keep a record of fees collected and refunded in accordance with Section 109.

[A] 104.8 Liability. The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be personally liable, either civilly or criminally, and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

[A] 104.8.1 Legal defense. Any suit or criminal complaint instituted against any officer or employee because of an act performed by that officer or employee in the lawful discharge of duties under the provisions of this code or other laws or ordinances implemented through the enforcement of this

code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for costs in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

[A] 104.9 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

[A] 104.9.1 Material and equipment reuse. Materials, equipment and devices shall not be reused unless such elements are in good working condition and approved.

Reason: Section 104 appears in the IMC, IFGC, IPC, ISPSC and IPSDC and contains general requirements for the authority and duties of the code official. Among these authorities and duties is the review and approval of alternate methods. The primary purpose of this code change is to update Section 104 to reflect the current manner that alternate methods and materials are evaluated, and to differentiate between evaluations from accredited evaluation agencies and evaluations from others, such as engineers. These provisions have basically been the same since the first edition in 2000, with the exception that the section on “Research Reports” was added in 2003. Industry terminology and methods have evolved over the years.

This proposal revises general code enforcement provisions to improve organization, improve clarity, and supplement existing provisions to better align the code text with how the code is commonly applied. The end goal is to provide the same wording and procedures in all of the I-Codes with regard to the Duties and Responsibilities of the Code Official. Some of the codes contain unique provisions applicable to only that code. Those nuances are retained so there are some slight differences, but the formatting will be the same in each code and the language will generally be the same in each code.

A separate code change proposal was submitted for the IFC, IWUIC, IBC, IEBC, IRC, IgCC and IPMC. The proposals are separate, however, the content and purpose is the same. Time restraints did not allow for this package to be reviewed by the PMG CAC. Therefore, it is submitted separately, however the content and format is identical.

As stated earlier, this section has been in the code a long time, and it is believed that it initially envisioned an alternative product or method review and approval process on a project-by-project basis, with substantiating tests and calculations or analyses provided with each permit application. Currently, a more efficient system has evolved where the same product evaluation reports are used in numerous projects, across many jurisdictions, and for many conditions. This evolution causes the need to revise this section to reflect current procedures.

However, the need for designers to be able to apply for one-time approval needs to be maintained, and that is the reason that “research reports” is maintained. In this case, though, when a method or material is not addressed by the code, the code official needs more information on the process that the evaluator used to determine that the method or material complies with the intent of the code.

To achieve the common format, a template is shown below which includes comments on each of the sections. Since the wording in each code is intended to be the same, the outline is not shown for every code, however there is an underline/strikeout version for each code provided. The code change for each code is provided as delete and substitute. This was done because the autoformatting process in cdpACCESS did not provide a document to easily follow. The underline/strikeout versions show the specific changes.

The following template is from the IBC. The IMC, IFGC, IPC, ISPSC and IPSDC provisions are formatted the same as this template, however some codes have additional unique provisions, and other codes don't contain all of these sections if they are not appropriate for the code content. This is the same template used for the other code change for the remaining I-Codes.

OUTLINE FOR PROPOSED SECTION 104

SECTION 104 DUTIES AND POWERS OF BUILDING OFFICIAL – same title used for each code

104.1 General. – This section has been subdivided with numbered/titled subsections to break up the existing paragraph and specifically state that the code official is authorized to determine compliance with the code. While always implied and applied in this manner, the code never specifically states this important fact.

104.2 Determination of Compliance. – reformatted to identify that when reviewing projects for compliance with the code, the code official can develop policies and procedures. It also specifically states that the developed policies and the project approvals are to be based on the intent of the code.

104.2.1 Listed compliance. – In cases where the code specifies a listing standard, it is common for a code official to accept things listed to that standard without further evaluating whether the standard is germane. When a product listing is appropriate, then the fact that the product is listed and installed in accordance with the listing specifications and the manufacturer's instructions becomes the approval of the product. This section is not included in all codes since not all codes require listed equipment.

104.2.2 Technical assistance. – Nearly all the codes provide for the code official to utilize technical assistance in some form or another. This

section is included as a subsection for determining compliance and will be consistent throughout the I-Codes. It is derived from, and replaces, previous text that was originally developed for and limited to hazardous materials related provisions.

104.2.2.1 Cost. – the cost for technical assistance is borne by the applicant or owner. This was previously included in a preceding paragraph and has been separated into its own subsection.

104.2.2.2 Preparer qualifications. – states that the person or agency providing the technical report must be qualified. The code official has the ability to require that the report is stamped by a registered design professional, since not all reports may need to provide this. For example, a hazardous materials classification report often does not include engineering or design. The definition is added to codes that do not currently contain the definition, such as the IWUIC. This was previously included in a preceding paragraph and has been separated into its own subsection. The new text goes beyond simply recommending changes, recognizing that the report may be a source document, as opposed to a review of documentation prepared by others.

104.2.2.3 Content. – the technical report shall include an analysis and any recommended or necessary changes.

104.2.2.4 Tests. – Tests can often provide valuable information. Where a test standard isn't specified by this code or a reference standard, the code official may wish to conduct further evaluation of the suitability of the test method used as a basis. Testing can be performed by an approved agency or by any other party/organization approved by the code official. Proposed provisions for tests are largely derived from existing code text on this topic.

104.2.3 ~~104.11~~ Alternative materials, design and methods of construction and equipment. – All codes make reference to accepting some type of alternative. This section is placed under the general compliance approval section and revised to state that a proposed alternative cannot be something that is specifically prohibited by the code. If ICC members have previously voted to specifically disallow something, alternative methods should not be a means of avoiding such a prohibition. Nevertheless, a code modification would still provide an option to make exceptions for unique cases, as opposed to the door being open for an applicant to end run the intent of the code by presenting an analysis or alternative that suggests an alternative to a prohibition is OK. It is important to note that something not contemplated by the code would not be impacted by this statement. Not contemplated is not the same as a specific prohibition in the code.

104.2.3.1 Approval authority. – if the alternative is acceptable, then it is to be approved by the code official. This is from existing text.

104.2.3.2 Application and disposition. – the submittal for an alternative must be accomplished in writing. If it is not approved, the code official must so state in writing and provide reasons why it was not acceptable. This is largely from existing text, however, the requirement for a written application for alternatives was not previously located in this section, where it is appropriate to reference.

104.2.3.3 Compliance with code intent. – the alternative must comply with the code's intent.

104.2.3.4 Equivalency criteria. – the alternative must provide equivalency to the code's provisions. The list of characteristics to be addressed is included from the current code. The reference to fire-resistance is removed from the list and fire-resistance is included under safety with additional criteria regarding fire characteristics identified in Section 104.2.3.4.1.

104.2.3.4.1 Fire safety equivalency. – this section was added because "fire-resistance" was removed from the list in Section 104.2.3.4 and recognizing that fire-resistance is not the only fire related characteristic to be addressed. Fire-resistance is only one characteristic of safety with respect to fire. This section is added to clarify that the entire issue of performance under fire conditions is the concern. Previously, aspects of fire safety beyond fire resistance would have been evaluated as part of "safety" in the list with no additional guidance on what to consider. Performance under fire conditions also includes equivalency as to how the alternate will perform structurally when exposed to fire.

104.2.3.5 Tests. – this section is added so the code official can ensure that any testing conducted is performed to a scale that adequately represents the end use of the alternate. This has primarily been added in response to concerns related to Code Change F60-21, which modified Section 2603 to defer alternatives related to fire performance of foam plastics to Section 104.

104.2.3.6 ~~104.11.1~~ Research-Reports. This section is relocated and revised to address two different types of reports currently submitted for alternatives.

104.2.3.6.1 Evaluation reports. – This section is added to address reports generate by an approved agency. The definition of "approved agency" was added to several codes in the 2018 editions. The definition is proposed to be revised, as in the IBC, or added as a new definition codes do not contain this definition, as in the IFC. This evaluation report is conducted by an approved agency that is accredited to conduct the tests or evaluations appropriate for the alternative involved. When the applicant provides a product evaluation from an accredited product evaluation agency that uses publicly developed and available criteria for the evaluation, the code official may have increased confidence that the method used for the evaluation does result in a method or material that meets the intent of the code and is at least equivalent to code-prescribed construction. Public development of criteria allows for input from industry experts, the public, and building officials in determining the methods used to evaluate code intent and equivalence, somewhat similar to the code development process where consensus is important. The accreditation ensures that the organization uses a consistent process to perform the evaluations. This section is meant to reflect the current use of evaluation reports

from accredited evaluation agencies or organizations.

104.2.3.6.2 Other reports. – this section is added to address reports generated by persons or agencies other than an approved agency. It specifies that the person or agency providing the report must be qualified and must be approved by the code official. The code official has the authority to require the stamp of a registered design professional. When an applicant provides an evaluation from other than an accredited agency, or from a source that does not use publicly developed and available criteria, the code official needs more information in order to perform a proper review. Not only does the code official need to evaluate the product, but also evaluate the method that the applicant has used to determine compliance with code intent and code equivalence. So, in that case, it is proposed that the applicant would also have to provide the criteria that was used to do the evaluation, justification for use of that criteria, and data used for the evaluation, so a complete review can be made.

104.2.3.7 Peer review. – this section is added to address a method of review currently utilized by many jurisdictions. The peer review is an outside, third-party review that is submitted to the code official for use in cases where a jurisdiction may not have qualified resource in-house to perform a sufficient review of an alternative compliance proposal. Again, the peer reviewer must be qualified and approved by the code official.

104.2.4 ~~104.10~~ Modifications. – this section is relocated under the section of compliance. Minor edits occurred to provide consistent language throughout the codes.

104.3 ~~104.2~~ Applications and permits. – this section is relocated and revised to provide consistent wording.

~~104.4 Inspections.~~ – this section is relocated to 104.2.2. Some of the language in this section is not relocated since those portions are

already covered in Section 110. 104.4 ~~104.6~~ Right of entry. – This section is relocated and revised to provide consistent wording. The issue of right of entry is the same with all enforcement issues.

104.4.1 Warrant. – this section was not found in all codes, so it was added to the IBC to provide the ability to utilize a warrant. This function is allowed by the courts and currently utilized by jurisdictions.

104.5 Identification. – no change

104.6 ~~104.3~~ Notices and orders. – relocated and revised for consistent wording.

104.7 ~~Department-Official~~ records. – This section revised to provide consistent wording and is reformatted by creating subsections. Each subsection addresses a different type of record that the is to be retained. This format clarifies that these records are required to be maintained.

104.7.1 Approvals.

104.7.2 Inspections.

104.7.3 Code alternatives and modifications.

104.7.4 Tests.

104.7.5 Fees.

104.8 Liability. – this section deals with protection from liability of the code official. The sections are revised to provide consistent wording throughout all I-Codes.

104.8.1 Legal defense. – this section deals with legal defense for the code official. The sections are revised to provide consistent wording throughout all I-Codes.

104.9 ~~105.5~~ Approved materials and equipment. – no change

104.9.1 ~~105.4 Used materials~~ Material and equipment reuse. – this section addresses the reuse of materials and equipment. The section is revised to provide consistent wording throughout the codes to say that the code official must approve any materials to be reused.

~~104.10 Modifications~~ – this section is relocated to 104.2.4 for formatting.

~~104.11 Alternative materials, design and methods of construction and equipment.~~ – this section is relocated to 104.2.3 for formatting.

~~104.11.1 Research reports.~~ – this section is relocated to 104.2.3.6 for formatting.

~~104.11.2 Tests~~ – this section is relocated 104.2.2.4, 104.2.3.5 and 104.8.4 for formatting.

Additional unique changes are as follows:

1. Sections in IMC 105 are relocated to IMC 104, so Section 105 is deleted. This also occurs in the IFGC and IPSDC.
2. A minor change was made to the definition of “approved agency” which removes the repeat of the word that is to be defined, agency, and replaces it with organization. Another revision allows the agency to furnish product evaluation in addition to certification, since evaluation and certification are two different things. Evaluation is for materials and methods not addressed by the code, and certification is for materials and methods that are addressed by the code.

A strikeout/underline version of each code follows to identify specific revisions.

The proposal in strikeout and underline text format can be viewed here:

<https://www.cdpassess.com/proposal/8835/25768/files/download/3016/>

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is a reformatting and clarification of the requirements already in the codes.

ADM15-22 Part I

IBC: [A] 104.9, 104.9.1 (New), 104.9.1.1 (New), 104.9.1.2 (New), [A] 104.9.1; IEBC: [A] 104.9, 104.9.1 (New), 104.9.1.1 (New), 104.9.1.2 (New), [A] 104.9.1; IFC: [A] 104.8, 104.8.1 (New), 104.8.1.1 (New), 104.8.1.2 (New), [A] 104.8.1; IFGC: [A] 105.5, 105.4.1 (New), 105.4.1.1 (New), 105.4.1.2 (New), [A] 105.4; IGCC: 105.2, 105.2.1 (New), 105.2.1.1 (New), 105.2.1.2 (New), 105.2.1; IMC: [A] 105.4, 105.4.1 (New), 105.4.1.1 (New), 105.4.1.2 (New), [A] 105.5; IPC: [A] 105.4, 105.4.1 (New), 105.4.1.1 (New), 105.4.1.2 (New), [A] 105.4.1; IPSDC: [A] 105.5, 105.4.1 (New), 105.4.1.1 (New), 105.4.1.2 (New), [A] 105.4; IPMC: [A] 106.5, 106.4.1 (New), 106.4.1.1 (New), 106.4.1.2 (New), [A] 106.4; ISPSC: 104.9 (New), 104.9.1 (New), 104.9.1.1 (New), 104.9.1.2 (New), [A] 104.13; IWUIC: 105.3 (New), 105.3.1 (New), 105.3.1.1 (New), 105.3.1.2 (New), 105.3.2 (New)

Proponents: Chris Chwedyk, representing Compliance Code Action Committee (ccac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

[A] 104.9 Approved materials and equipment. Materials, equipment and devices *approved* by the *building official* shall be constructed and installed in accordance with such approval.

Add new text as follows:

104.9.1 Materials and equipment standards. Materials, equipment and devices required by this code to conform to referenced standards shall comply with Section 104.9.1.1 and 104.9.1.2.

104.9.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

104.9.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the *building official*, the materials, equipment and devices shall be certified as complying with those standards by an *approved agency*. The agency shall be accredited to provide certification of materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

Revise as follows:

[A] ~~104.9.2~~ ~~104.9.1~~ Used materials Material and equipment reuse. Materials that are reused shall comply with the requirements of this code for new materials. Used equipment and devices shall not be reused unless *approved* by the *building official*.

2021 International Existing Building Code

Revise as follows:

[A] 104.9 Approved materials and equipment. Materials, equipment and devices *approved* by the *code official* shall be constructed and installed in accordance with such approval.

Add new text as follows:

104.9.1 Materials and equipment standards . Materials, equipment and devices required by this code to conform to referenced standards shall comply with Sections 104.9.1.1 and 104.9.1.2.

104.9.1.1 Identification. Materials, equipment and devices required by this code to conform to referenced standards shall bear the identification of the manufacturer and any markings required by those referenced standards.

104.9.1.2 Listing and labeling. Where the code requires a product to be *listed* and *labeled*, or where required by the *building official*, these materials, equipment and devices shall be certified as complying with those standards by an *approved agency*. The agency shall be accredited to provide product certification, and the material and equipment shall be within the scope of the agency's accreditation. Certification shall incorporate initial product testing, assessment and surveillance of a manufacturer's quality control system.

Revise as follows:

[A] ~~104.9.1~~ 104.9.2 Used materials Material and equipment reuse. The use of used materials that meet the requirements of this code for new materials is permitted. Used equipment and devices shall be permitted to be reused subject to the approval of the *code official*.

2021 International Fire Code

Revise as follows:

[A] **104.8 Approved materials and equipment.** Materials, equipment and devices *approved* by the *fire code official* shall be constructed and installed in accordance with such approval.

Add new text as follows:

104.8.1 Materials and equipment standards. Materials, equipment and devices required by this code to conform to referenced standards shall comply with Sections 104.8.1.1 and 104.8.1.2.

104.8.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

104.8.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the building official, the materials, equipment and devices shall be certified as complying with those standards by an approved agency. The agency shall be accredited to provide certification of materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

Revise as follows:

[A] ~~104.8.1~~ **104.8.2 Material and equipment reuse.** Materials, equipment and devices shall not be reused or reinstalled unless such elements have been reconditioned, tested and placed in good and proper working condition and *approved*.

2021 International Fuel Gas Code

Revise as follows:

[A] ~~105.5~~ **105.4 Approved materials and equipment.** Materials, *equipment* and devices *approved* by the *code official* shall be constructed and installed in accordance with such approval.

Add new text as follows:

105.4.1 Materials and equipment standards. Materials, equipment and devices required by this code to conform to referenced standards shall comply with Sections 105.4.1.1 and 105.4.1.2.

105.4.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

105.4.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the building official, the materials, equipment and devices shall be certified as complying with those standards by an approved agency. The agency shall be accredited to provide certification of materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

Revise as follows:

[A] ~~105.4-105.4.2 Used material~~ **Material, appliances and equipment reuse.** The use of used materials that meet the requirements of this code for new materials is permitted. Used appliances, *equipment* and devices shall not be reused unless such elements have been reconditioned, tested and placed in good and proper working condition, and *approved* by the *code official*.

2021 International Green Construction Code

105.2 Approved materials and equipment. Materials, equipment, devices and innovative approaches *approved* by the authority having jurisdiction shall be constructed, installed and maintained in accordance with such approval.

Add new text as follows:

105.2.1 Materials and equipment standards . Materials, equipment and devices required by this code to conform to referenced standards shall comply with Sections 105.2.1.1 and 105.2.1.2.

105.2.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

105.2.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the building official, the materials, equipment and devices shall be certified as complying with those standards by an approved agency. The agency shall be accredited to provide certification of materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

Revise as follows:

~~105.2.1~~ **105.2.2 Used materials** ~~Material, products and equipment reuse~~. Used materials, products and equipment that are to be reused shall meet the requirements of this code for new materials. Used equipment and devices that are to be reused are subject to the approval of the authority having jurisdiction.

2021 International Mechanical Code

[A] **105.4 Approved materials and equipment**. Materials, *equipment* and devices *approved* by the code official shall be constructed and installed in accordance with such approval.

Add new text as follows:

105.4.1 Materials and equipment standards. Materials, equipment and devices required by this code to conform to referenced standards shall comply with Sections 105.4.1.1 and 105.4.1.2.

105.4.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

105.4.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the building official, the materials, equipment and devices shall be certified as complying with those standards by an approved agency. The agency shall be accredited to provide certification of materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

Revise as follows:

[A] ~~105.5~~ **105.4.2 Material Used material, equipment and appliance reuse**. Materials, *equipment, appliances* and devices shall not be reused unless such elements have been reconditioned, tested and placed in good and proper working condition and *approved*.

2021 International Plumbing Code

[A] **105.4 Approved materials and equipment**. Materials, equipment and devices *approved* by the code official shall be constructed and installed in accordance with such approval.

Add new text as follows:

105.4.1 Materials and equipment standards. Materials, equipment and devices required by this code to conform to referenced standards shall comply with Sections 105.4.1.1 and 105.4.1.2.

105.4.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

105.4.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the building official, the materials, equipment and devices shall be certified as complying with those standards by an approved agency. The agency shall be accredited to provide certification of materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

Revise as follows:

[A] ~~105.4.1~~ **105.4.2 Material and equipment reuse**. Materials, equipment and devices shall not be reused unless such elements have been reconditioned, tested, placed in good and proper working condition and *approved*.

2021 International Private Sewage Disposal Code

Revise as follows:

[A] ~~105.5~~ **105.4 Approved materials and equipment**. Materials, equipment and devices approved by the *code official* shall be constructed and installed in accordance with such approval.

Add new text as follows:

105.4.1 Materials and equipment standards. Materials, equipment and devices required by this code to conform to referenced standards shall comply with Sections 105.4.1.1 and 105.4.1.2.

105.4.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

105.4.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the building official, the materials, equipment and devices shall be certified as complying with those standards by an approved agency. The agency shall be accredited to provide certification of

materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

Revise as follows:

[A] ~~105.4 105.4.2 Used material~~ **Material and equipment reuse.** Materials that are reused shall comply with the requirements of this code for new materials. Materials, equipment and devices shall not be reused unless such elements have been reconditioned, tested and placed in good and proper working condition and approved by the *code official*.

2021 International Property Maintenance Code

Revise as follows:

[A] ~~106.5-106.4 Approved materials and equipment.~~ Materials, equipment and devices *approved* by the *code official* shall be constructed and installed in accordance with such approval.

Add new text as follows:

106.4.1 Materials and equipment standards . Materials, equipment and devices required by this code to conform to referenced standards shall comply with Sections 106.4.1.1 and 106.4.1.2.

106.4.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

106.4.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the building official, the materials, equipment and devices shall be certified as complying with those standards by an approved agency. The agency shall be accredited to provide certification of materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

Revise as follows:

[A] ~~106.4 106.4.2 Used material~~ **Material and equipment reuse.** Materials that are reused shall comply with the requirements of this code for new materials. Materials, equipment and devices shall not be reused unless such elements are in good repair or have been reconditioned and tested where necessary, placed in good and proper working condition and *approved* by the *code official*.

2021 International Swimming Pool and Spa Code

Add new text as follows:

104.9 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

104.9.1 Materials and equipment standards. Materials, equipment and devices required by this code to conform to referenced standards shall comply with Sections 104.9.1.1 and 104.9.1.2.

104.9.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

104.9.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the building official, the materials, equipment and devices shall be certified as complying with those standards by an approved agency. The agency shall be accredited to provide certification of materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

Revise as follows:

[A] ~~104.13 104.9.2 Material and equipment reuse.~~ Materials, equipment and devices shall not be reused unless such elements have been reconditioned, tested, placed in good and proper working condition and *approved*.

2021 International Wildland-Urban Interface Code

Add new text as follows:

105.3 Approved materials and equipment. Materials, equipment and devices approved by the code official shall be constructed and installed in accordance with such approval.

105.3.1 Materials and equipment standards . Materials, equipment and devices required by this code to conform to referenced standards shall

comply with Sections 105.3.1.1 and 105.3.1.2.

105.3.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

105.3.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the building official, the materials, equipment and devices shall be certified as complying with those standards by an approved agency. The agency shall be accredited to provide certification of materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

105.3.2 Materials and equipment reuse. Materials that are reused shall comply with the requirements of this code for new materials. Used equipment and devices shall not be reused unless approved by the code official.

Reason: The code is currently silent on how the building official is to determine code compliance of products that are required to meet certain standards in the code. In all codes, there is currently a section on Alternate Materials and Methods, which might be used for this process, but that section clearly states that it applies to "*any design or method of construction not specifically prescribed by this code.*" So for products that have requirements that ARE prescribed by the code, the code is currently silent on how to determine code compliance. This change proposes to add a section to "*Approved materials and equipment*" that does three things. First, it reinforces the information required on the product or its packaging. Second, it requires that where the code requires listing and labeling, or when required by the building official, the manufacturer must provide a product certification from an approved agency. Finally, it clarifies that the approved agency must be accredited to certify the type of product that is being evaluated. This proposal is describing the typical process currently used in the industry and will help to clarify better understanding of certification requirements.

It is important to include "*where required by the building official*", because there are some products that are minor in nature and are not related to life safety that should not always require certification. The term "*approved agency*" is already defined by the code and clearly already describes the type of organization that provides this type of certification. Requirements that the agency be accredited to provide certification of materials, equipment and devices better ensure that the agency's processes are consistent, transparent, and impartial.

Further, it is important to spell out exactly what the certification entails. The next to last sentence in the section on Listing and Labeling ensures that the certification of the product includes any required testing and other assessment, and also review of the manufacturer's quality control system to ensure that the product that was tested will continue to be produced in the same way so it will continue to comply with the code. This matches the wording in the International Plumbing Code in the definition of "Third-party Certification Agency".

Finally, the last sentence ensures that the materials, equipment and devices are installed in accordance with their listing which ensures that the installation complies with the code.

This change provides some consistency with other International Codes on how product certification is handled. For example, the International Plumbing Code, in Section 303.4, states "*Plumbing products and materials required by the code to be in compliance with a referenced standard shall be listed by a third-party certification agency as complying with the referenced standards. Products and materials shall be identified in accordance with Section 303.1.*"

The International Mechanical Code contains similar requirements. Section 301.5 states "*Piping, tubing and fittings shall comply with the applicable referenced standards, specifications and performance criteria of this code and shall be identified in accordance with Section 301.3. Piping, tubing and fittings shall either be tested by an approved third-party testing agency or certified by an approved third-party certification agency.*" Further, Section 301.7 states that "*Appliances regulated by this code shall be listed and labeled for the application in which they are installed and used, unless otherwise approved in accordance with Section 105.*"

The change to the section for "Material and equipment reuse" is to make this a subsection of "Approved materials and equipment" and to provide a section title that is similar across codes. There are no proposed changes to the text in these sections in this proposal.

The proposal in strikeout and underline text format can be viewed here:

<https://www.cdpassess.com/proposal/8552/25322/files/download/2907/>

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The cost of this requirement is primarily on the manufacturer and the certification agency and is fairly negligible as many material manufacturers and certification organizations already engage in the described process.

ADM15-22 Part II

IRC: R104.9, R104.9.1 (New), R104.9.1.1 (New), R104.9.1.2 (New), R104.9.1

Proponents: Chris Chwedyk, representing Compliance Code Action Committee (ccac@iccsafe.org)

2021 International Residential Code

R104.9 Approved materials and equipment. Materials, *equipment* and devices *approved* by the *building official* shall be constructed and installed in accordance with such approval.

Add new text as follows:

R104.9.1 Materials and equipment standards . Materials, equipment and devices required by this code to conform to referenced standards shall comply with Sections R104.9.1.1 and R104.9.1.2.

R104.9.1.1 Identification. Materials, equipment and devices required to conform to standards referenced in this code shall bear the identification of the manufacturer and any markings required by those referenced standards.

R104.9.1.2 Listing and labeling. Where the code requires listing and labeling, or where required by the *building official*, the materials, equipment and devices shall be certified as complying with those standards by an *approved agency*. The agency shall be accredited to provide certification of materials, equipment and devices that are within the scope of the agency's accreditation. Certification of materials, equipment and devices shall incorporate initial testing, assessment and surveillance of a manufacturer's quality control system. The use of these materials, equipment and devices shall be in accordance with their listing.

Revise as follows:

~~R104.9.1~~ **R104.9.2 Used materials** ~~Material and equipment reuse~~. Used materials, *equipment* and devices shall not be reused unless *approved* by the *building official*.

Reason: The code is currently silent on how the building official is to determine code compliance of products that are required to meet certain standards in the code. In all codes, there is currently a section on Alternate Materials and Methods, which might be used for this process, but that section clearly states that it applies to "any design or method of construction not specifically prescribed by this code." So for products that have requirements that ARE prescribed by the code, the code is currently silent on how to determine code compliance. This change proposes to add a section to "Approved materials and equipment" that does three things. First, it reinforces the information required on the product or its packaging. Second, it requires that where the code requires listing and labeling, or when required by the building official, the manufacturer must provide a product certification from an approved agency. Finally, it clarifies that the approved agency must be accredited to certify the type of product that is being evaluated. This proposal is describing the typical process currently used in the industry and will help to clarify better understanding of certification requirements.

It is important to include "where required by the building official", because there are some products that are minor in nature and are not related to life safety that should not always require certification. The term "approved agency" is already defined by the code and clearly already describes the type of organization that provides this type of certification. Requirements that the agency be accredited to provide certification of materials, equipment and devices better ensure that the agency's processes are consistent, transparent, and impartial.

Further, it is important to spell out exactly what the certification entails. The next to last sentence in the section on Listing and Labeling ensures that the certification of the product includes any required testing and other assessment, and also review of the manufacturer's quality control system to ensure that the product that was tested will continue to be produced in the same way so it will continue to comply with the code. This matches the wording in the International Plumbing Code in the definition of "Third-party Certification Agency".

Finally, the last sentence ensures that the materials, equipment and devices are installed in accordance with their listing which ensures that the installation complies with the code.

This change provides some consistency with other International Codes on how product certification is handled. For example, the International Plumbing Code, in Section 303.4, states "Plumbing products and materials required by the code to be in compliance with a referenced standard shall be listed by a third-party certification agency as complying with the referenced standards. Products and materials shall be identified in accordance with Section 303.1."

The International Mechanical Code contains similar requirements. Section 301.5 states "Piping, tubing and fittings shall comply with the applicable referenced standards, specifications and performance criteria of this code and shall be identified in accordance with Section 301.3. Piping, tubing and fittings shall either be tested by an approved third-party testing agency or certified by an approved third-party certification agency." Further, Section 301.7 states that "Appliances regulated by this code shall be listed and labeled for the application in which they are installed and used, unless otherwise approved in accordance with Section 105."

The change to the section for "Material and equipment reuse" is to make this a subsection of "Approved materials and equipment" and to provide a

section title that is similar across codes. There are no proposed changes to the text in these sections in this proposal.

The proposal in ~~strikeout~~ and underline text format can be viewed here:

<https://www.cdpassess.com/proposal/8552/25322/files/download/2907/>

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The cost of this requirement is primarily on the manufacturer and the certification agency and is fairly negligible as many material manufacturers and certification organizations already engage in the described process.

ADM16-22 Part I

IBC: SECTION 202, [A] 104.11, 104.11.1 (New), [A] 104.11.1, 104.11.1.2 (New), [A] 104.11.2, 104.12.1 (New), 104.12.2 (New), 104.12.3 (New); IEBC: SECTION 202 (New), [A] 104.11, 104.11.1 (New), [A] 104.11.1, 104.11.1.2 (New), [A] 104.11.2, 1104.12.1 (New), 104.12.2 (New), 104.12.3 (New); IFC: SECTION 202 (New), [A] 104.10, 104.10.1 (New), [A] 104.10.1, 104.10.1.2 (New), [A] 104.10.2, 104.11.1 (New), 104.11.2 (New), 104.11.3 (New); IFGC: SECTION 202, SECTION 202 (New), [A] 105.2, 105.2.1 (New), [A] 105.2.1, 105.2.1.2 (New), [A] 105.3, [A] 105.3.1, [A] 105.3.2, [A] 105.3.3; IGCC: 105.4, 105.4.1 (New), 105.4.1, 105.4.1.2 (New), 105.4.2, 105.5.1 (New), 105.5.2 (New), 105.5.3 (New); IMC: SECTION 202, SECTION 202 (New), [A] 105.2, 105.2.1 (New), [A] 105.2.1, 105.2.1.2 (New), [A] 105.3, [A] 105.3.1, [A] 105.3.2, [A] 105.3.3; IPSDC: SECTION 202 (New), [A] 105.2, 105.2.1 (New), [A] 105.2.1, 105.2.1.2 (New), [A] 105.3, [A] 105.3.1, [A] 105.3.2, [A] 105.3.3; IPC: SECTION 202, SECTION 202 (New), [A] 105.2, 105.2.1 (New), [A] 105.2.1, 105.2.1.2 (New), [A] 105.3, [A] 105.3.1, [A] 105.3.2, [A] 105.3.3; IPMC: SECTION 202 (New), [A] 106.2, 106.2.1 (New), [A] 106.6, 106.2.1.2 (New), [A] 106.3, [A] 106.3.1, 106.3.2 (New), [A] 106.3.2; ISPSC: SECTION 202, SECTION 202 (New), [A] 104.10, 104.10.1 (New), 104.10.1.1 (New), 104.10.1.2 (New), [A] 104.11, [A] 104.11.1, [A] 104.11.2, [A] 104.11.3; IWUIC: SECTION 202 (New), [A] 105.3, 105.3.1 (New), 105.3.1.1 (New), 105.3.1.2 (New), 105.4 (New), 105.4.1 (New), 105.4.2 (New), 105.4.3 (New)

Proponents: Chris Chwedyk, representing Compliance Code Action Committee (ccac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

[A] APPROVED AGENCY. An established and recognized ~~agency organization~~ that is regularly engaged in conducting tests, furnishing inspection services or furnishing product ~~evaluation or certification~~ where such ~~agency organization~~ has been *approved* by the *building official*.

[A] APPROVED SOURCE. An independent person, firm or corporation, *approved* by the *building official*, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

[A] 104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code,
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code as it pertains to the following:
 - 2.1. Quality.
 - 2.2. Strength.
 - 2.3. Effectiveness.
 - 2.4. *Fire resistance*.
 - 2.5. Durability.
 - 2.6. Safety.

~~Where the alternative material, design or method of construction is not approved, the *building official* shall respond in writing, stating the reasons why the alternative was not approved.~~

Add new text as follows:

104.11.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 104.11.1.1 or evaluation reports from an approved agency in accordance with Section 104.11.1.2. The building official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

Delete and substitute as follows:

~~**[A] 104.11.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved sources*.~~

[A] 104.11.1.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the building official's review of the materials, design or method of construction and equipment.

Add new text as follows:

104.11.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

Revise as follows:

[A] ~~104.11.2~~ 104.12 Tests-Required testing. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction.

104.12.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures.

104.12.2 Testing agency. Tests shall be performed by an approved agency.

104.12.3 Test reports. Reports of tests shall be retained by the code official for the period required for retention of public records.

2021 International Existing Building Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been approved by the *building official*.

APPROVED SOURCE. An independent person, firm or corporation, approved by the *code official*, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

[A] 104.11 Alternative materials, design and methods of construction, and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. ~~Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.~~

Add new text as follows:

104.11.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 104.11.1.1 or evaluation reports from an approved agency in accordance with Section 104.11.1.2. The code official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

Delete and substitute as follows:

[A] ~~104.11.1 Research reports.~~ ~~Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved sources*.~~

[A] 104.11.1.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the code official's review of the materials, design or method of construction and equipment.

Add new text as follows:

104.11.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

Revise as follows:

[A] ~~104.11.2 104.12 Tests Required testing.~~ Where there is insufficient evidence of compliance with the provisions of this code or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *code official* shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction.

1104.12.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures.

104.12.2 Testing agency. Tests shall be performed by an approved agency.

104.12.3 Test reports. Reports of tests shall be retained by the code official for the period required for retention of public records.

2021 International Fire Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been approved by the building official.

APPROVED SOURCE. An independent person, firm or corporation, approved by the code official, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

[A] ~~104.10 Alternative materials, design and methods of construction and equipment.~~ The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *fire code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, *fire resistance*, durability and safety. ~~Where the alternative material, design or method of construction is not approved, the fire code official shall respond in writing, stating the reasons why the alternative was not approved.~~

Add new text as follows:

104.10.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 104.10.1.1 or evaluation reports from an approved agency in accordance with Section 104.10.1.2. The code official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

Delete and substitute as follows:

[A] ~~104.10.1 Research reports.~~ ~~Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.~~

[A] 104.10.1.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the code official's review of the materials, design or method of construction and equipment.

Add new text as follows:

104.10.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

Revise as follows:

[A] ~~104.10.2 104.11 Tests Required testing.~~ Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *fire code official* shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction.

104.11.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures.

104.11.2 Testing agency. Tests shall be performed by an approved agency.

104.11.3 Test reports. Reports of tests shall be retained by the code official for the period required for retention of public records.

2021 International Fuel Gas Code

Revise as follows:

[A] APPROVED AGENCY. An established and recognized ~~agency-organization~~ that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such ~~agency-organization~~ has been *approved* by the *code official*.

Add new definition as follows:

APPROVED SOURCE. An independent person, firm or corporation, *approved* by the *code official*, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. ~~Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.~~

Add new text as follows:

105.2.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 105.2.1.1 or evaluation reports from an approved agency in accordance with Section 105.2.1.2. The code official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

Delete and substitute as follows:

~~**[A] 105.2.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.~~

[A] 105.2.1.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the code official's review of the materials, design or method of construction and equipment.

Add new text as follows:

105.2.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

[A] 105.3 Required testing. Where there is insufficient evidence of compliance with the provisions of this code or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *code official* shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction.

Revise as follows:

[A] 105.3.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *code official* shall approve the testing procedures.

[A] 105.3.2 Testing agency. Tests shall be performed by an *approved* agency.

[A] 105.3.3 Test reports. Reports of tests shall be retained by the *code official* for the period required for retention of public records.

2021 International Green Construction Code

Revise as follows:

~~**105.4 Innovative approaches and alternative**~~ **Alternative materials, design, and methods of construction and equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design, ~~innovative approach~~, or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design, ~~innovative approach~~ or method of construction shall be reviewed and *approved* where the authority having jurisdiction finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, design, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code. The details of granting the use of alternative materials, designs, innovative approach and methods of construction shall be recorded and entered in the files of the department. ~~Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons the alternative was not approved.~~

Add new text as follows:

105.4.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 105.4.1.1 or evaluation reports from an approved agency in accordance with Section 105.4.1.2. The code official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

Delete and substitute as follows:

~~**105.4.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.~~

105.4.1.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the code official's review of the materials, design or method of construction and equipment.

Add new text as follows:

105.4.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

Revise as follows:

~~**105.4.2-105.5 Tests-Required testing.** Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the authority having jurisdiction shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction.~~

105.5.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures.

105.5.2 Testing agency. Tests shall be performed by an approved agency.

105.5.3 Test reports. Reports of tests shall be retained by the code official for the period required for retention of public records.

2021 International Mechanical Code

Revise as follows:

[A] APPROVED AGENCY. An established and recognized ~~agency organization~~ that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such ~~agency organization~~ has been *approved* by the *code official*.

Add new definition as follows:

APPROVED SOURCE. An independent person, firm or corporation, approved by the code official, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. ~~Where the alternative material, design or method of construction is not approved, the code official shall respond in writing, stating the reasons why the alternative was not approved.~~

Add new text as follows:

105.2.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 105.2.1.1 or evaluation reports from an approved agency in accordance with Section 105.2.1.2. The code official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

Delete and substitute as follows:

~~**[A] 105.2.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.~~

[A] 105.2.1.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the code official's review of the materials, design or method of construction and equipment.

Add new text as follows:

105.2.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

[A] 105.3 Required testing. Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the code official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction.

[A] 105.3.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures.

[A] 105.3.2 Testing agency. Tests shall be performed by an *approved* agency.

[A] 105.3.3 Test reports. Reports of tests shall be retained by the code official for the period required for retention of public records.

2021 International Private Sewage Disposal Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been *approved* by the *code official*.

APPROVED SOURCE. An independent person, firm or corporation, *approved* by the *code official*, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. ~~Where the alternative material, design or method of construction is not approved, the *code official* shall respond in writing, stating the reasons why the alternative was not approved.~~

Add new text as follows:

105.2.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 105.2.1.1 or evaluation reports from an approved agency in accordance with Section 105.2.1.2. The code official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

Delete and substitute as follows:

~~**[A] 105.2.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.~~

[A] 105.2.1.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the code official's review of the materials, design or method of construction and equipment.

Add new text as follows:

105.2.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

[A] 105.3 Required testing. Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternate materials or methods, the *code official* shall have the authority to require testing as evidence of compliance at no expense to the jurisdiction.

[A] **105.3.1 Test methods.** Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *code official* shall approve the testing procedures.

[A] **105.3.2 Testing agency.** Tests shall be performed by an approved agency.

[A] **105.3.3 Test reports.** Reports of tests shall be retained by the *code official* for the period required for retention of public records.

2021 International Plumbing Code

Revise as follows:

[A] **APPROVED AGENCY.** An established and recognized ~~agency-organization~~ that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such ~~agency-organization~~ has been *approved* by the *code official*.

Add new definition as follows:

APPROVED SOURCE. An independent person, firm or corporation, *approved* by the *code official*, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

[A] **105.2 Alternative materials, design and methods of construction and equipment.** The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material or method of construction shall be *approved* where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. ~~Where the alternative material, design or method of construction is not *approved*, the code official shall respond in writing, stating the reasons why the alternative was not *approved*.~~

Add new text as follows:

105.2.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 104.11.1.1 or evaluation reports from an approved agency in accordance with Section 104.11.1.2. The code official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

Delete and substitute as follows:

~~[A] **105.2.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.~~

[A] **105.2.1.1 Research reports.** Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the code official's review of the materials, design or method of construction and equipment.

Add new text as follows:

105.2.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

[A] **105.3 Required testing.** Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the code official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction.

[A] **105.3.1 Test methods.** Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures.

[A] **105.3.2 Testing agency.** Tests shall be performed by an *approved agency*.

[A] **105.3.3 Test reports.** Reports of tests shall be retained by the code official for the period required for retention of public records.

2021 International Property Maintenance Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been *approved* by the *code official*.

APPROVED SOURCE. An independent person, firm or corporation, approved by the code official, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

[A] 106.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. ~~Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.~~

Add new text as follows:

106.2.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 104.11.1.1 or evaluation reports from an approved agency in accordance with Section 104.11.1.2. The code official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

Delete and substitute as follows:

~~**[A] 106.6 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved sources*.~~

[A] 106.2.1.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the code official's review of the materials, design or method of construction and equipment.

Add new text as follows:

106.2.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

[A] 106.3 Required testing. Whenever there is insufficient evidence of compliance with the provisions of this code or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *code official* shall have the authority to require tests to be made as evidence of compliance without expense to the jurisdiction.

Revise as follows:

[A] 106.3.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *code official* shall ~~be permitted to approve appropriate the testing procedures performed by an *approved agency*.~~

Add new text as follows:

106.3.2 Testing agency. Tests shall be performed by an approved agency.

Revise as follows:

~~**[A] 106.3.2-106.3.3 Test reports.** Reports of tests shall be retained by the *code official* for the period required for retention of public records.~~

2021 International Swimming Pool and Spa Code

Revise as follows:

[A] APPROVED AGENCY. An established and recognized ~~agency organization~~ that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such ~~agency organization~~ has been *approved* by the *code official*.

Add new definition as follows:

APPROVED SOURCE. An independent person, firm or corporation, approved by the code official, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

[A] 104.10 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any design or material or to prohibit any method of construction not specifically prescribed by this code, provided that any such

alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, durability and safety. ~~Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.~~

Add new text as follows:

104.10.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 104.10.1.1 or evaluation reports from an approved agency in accordance with Section 104.10.1.2. The code official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

104.10.1.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the code official's review of the materials, design or method of construction and equipment.

104.10.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

Revise as follows:

[A] 104.11 Required testing. Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *code official* shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction.

[A] 104.11.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *code official* shall approve the testing procedures.

[A] 104.11.2 Testing agency. Tests shall be performed by an *approved* agency.

[A] 104.11.3 Test reports. Reports of tests shall be retained by the *code official* for the period required for retention of public records.

2021 International Wildland-Urban Interface Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized organization that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such organization has been *approved* by the *code official*.

APPROVED SOURCE. An independent person, firm or corporation, *approved* by the *code official*, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

[A] 105.3 Alternative materials, design and methods. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method shall be *approved* where the *building official* in concurrence with the fire chief finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, *fire resistance*, durability and safety. ~~Where the alternative material, design or method is not *approved*, the *building official* shall respond in writing, stating the reasons why the alternative was not *approved*.~~

Add new text as follows:

105.3.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section 105.3.1.1 or evaluation reports from an approved agency in accordance with Section 105.3.1.2. The code official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

105.3.1.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the code official's review of the materials, design or method of construction and equipment.

105.3.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used

for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

105.4 Required testing. Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the code official shall have the authority to require tests as evidence of compliance to be made at no expense to the jurisdiction.

105.4.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures.

105.4.2 Testing agency. Tests shall be performed by an approved agency.

105.4.3 Test reports. Reports of tests shall be retained by the code official for the period required for retention of public records.

Reason: The reason for this code change is to update the Alternate Methods and Materials Section to reflect the current way that alternate methods and materials are evaluated, and to differentiate between evaluations from accredited evaluation agencies and evaluations from others, such as engineers. The section on Alternate Methods and Materials has basically been the same since the codes were first combined in 2000, with the exception that the section on "Research Reports" was added in 2003 to some codes. The industry now uses some different terminology and methods.

This section governs materials, designs, and methods of construction that are not currently addressed by the code, either with design requirements or referenced standards. So it is important that the building official understand what methods the approved agency or source used to determine that the method or material meets code intent and equivalence. The intent of this change is to recognize the two primary processes of alternative material and method approval used in the industry currently:

1. When the applicant provides a product evaluation from an accredited product evaluation agency that uses publically developed and available criteria for the evaluation, the building official can have more confidence that the method used for the evaluation does result in a method or material that meets the intent of the code and is at least equivalent to code-prescribed construction. Public development of criteria allows for input from industry experts, the public, and building officials in determining the methods used to evaluate code intent and equivalence, somewhat similar to the code development process where consensus is important. The accreditation ensures that the organization uses a consistent process to perform the evaluations. This section is meant to reflect the current use of evaluation reports from accredited evaluation agencies or organizations.

2. When an applicant provides an evaluation from other than an accredited agency, or from a source that does not use publically developed and available criteria, the building official needs more information in order to perform a proper review. Not only does the building official need to evaluate the product, but also evaluate the method that the applicant has used to determine compliance with code intent and code equivalence. So in that case, it is proposed that the applicant would also have to provide the criteria that was used to do the evaluation, justification for use of that criteria, and data used for the evaluation, so a complete review can be made.

As stated earlier, this section has been in the code a long time, and we believe that it initially envisioned an alternative product or method review and approval process on a project-by-project basis, with substantiating tests and calculations or analyses provided with each permit application. Currently, a more efficient system has evolved where the same product evaluation reports are used in numerous projects, across many jurisdictions, and for many conditions. This evolution causes the need to revise this section to reflect current procedures.

However, the need for designers to be able to apply for one-time approval needs to be maintained, and that is the reason that "research reports" is maintained. In this case, though, when a method or material is not addressed by the code, the building official needs more information on the process that the evaluator used to determine that the method or material complies with the intent of the code.

The part of this section that deals with notification was revised to be consistent with Section 110.6, which states that when an inspection has failed, the building official has to "notify the permit holder or the permit holder's agent". It seems like disapproval of an alternate method or material is very similar to disapproval of an inspection, so the notification should be the same.

Finally, a minor change to the definition of "approved agency" removes the repeat of the word that is to be defined, agency, and replaces it with organization. Another revision allows the agency to furnish product evaluation in addition to certification, since evaluation and certification are two different things. Evaluation is for materials and methods not addressed by the code, and certification is for materials and methods that are addressed by the code.

For some codes, the definition of "approved agency" and "approved source" needed to be added.

The section on testing was renumbered to follow these new sections and put in the same format in all the codes. There are no technical changes.

There is a separate CCAC code change proposal that clarifies the use of certification, so that is not covered here.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The cost of this requirement is primarily on the manufacturer and the certification agency and is fairly negligible as many material manufacturers and certification organizations already engage in the described process.

ADM16-22 Part II

IRC: SECTION 202, R104.11, R104.11.1 (New), R104.11.1.2 (New), R104.11.1, R104.12.1 (New), R104.12.2 (New), R104.12.3 (New)

Proponents: Chris Chwedyk, representing Compliance Code Action Committee (ccac@iccsafe.org)

2021 International Residential Code

Revise as follows:

[RB] APPROVED AGENCY. An established and recognized ~~agency organization~~ that is regularly engaged in conducting tests, furnishing inspection services or furnishing product evaluation or certification where such ~~agency organization~~ has been *approved* by the *building official*.

[MP] APPROVED SOURCE. An independent person, firm or corporation, *approved* by the *building official*, who is competent and experienced in the application of engineering principles to materials, methods or systems analyses.

Revise as follows:

R104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code. The *building official* shall have the authority to approve an alternative material, design or method of construction upon application of the *owner* or the *owner's* authorized agent. The *building official* shall first find that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Compliance with the specific performance-based provisions of the International Codes shall be an alternative to the specific requirements of this code. ~~Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved.~~

Add new text as follows:

R104.11.1 Verification of code intent and equivalence. Demonstration of compliance with code intent and code equivalence of a material, design or method of construction and equipment not specifically provided for in this code shall be through either research reports from an approved source in accordance with Section R104.11.1.1 or evaluation reports from an approved agency in accordance with Section R104.11.1.2. The building official shall notify the permit holder or permit holder's agent when an alternate material, design, or method of construction is not approved.

R104.11.1 Research reports. Research reports shall describe the test standards or methods and criteria used to determine compliance with code intent and code equivalence, justification for such criteria, and supporting tests and analysis necessary to assist in the building official's review of the materials, design or method of construction and equipment.

R104.11.1.2 Evaluation reports. Evaluation reports shall be issued by an approved agency accredited to evaluate or certify products. The alternate material, design or method of construction and equipment evaluated shall be within the scope of accreditation of the approved agency. Criteria used for the evaluation shall be identified within the report, developed using a process that includes input from the public, and available for review by the public.

Revise as follows:

~~**R104.11.1 R104.12 Tests Required testing.**~~ Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made at no expense to the *jurisdiction*.

R104.12.1 Test methods. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the code official shall approve the testing procedures.

R104.12.2 Testing agency. Tests shall be performed by an approved agency.

R104.12.3 Test reports. Reports of tests shall be retained by the building official for the period required for retention of public records.

Reason: The reason for this code change is to update the Alternate Methods and Materials Section to reflect the current way that alternate methods and materials are evaluated, and to differentiate between evaluations from accredited evaluation agencies and evaluations from others, such as engineers. The section on Alternate Methods and Materials has basically been the same since the codes were first combined in 2000, with the exception that the section on "Research Reports" was added in 2003 to some codes. The industry now uses some different terminology and methods.

This section governs materials, designs, and methods of construction that are not currently addressed by the code, either with design requirements or referenced standards. So it is important that the building official understand what methods the approved agency or source used to determine that the method or material meets code intent and equivalence. The intent of this change is to recognize the two primary processes of alternative material and method approval used in the industry currently:

1. When the applicant provides a product evaluation from an accredited product evaluation agency that uses publically developed and available

criteria for the evaluation, the building official can have more confidence that the method used for the evaluation does result in a method or material that meets the intent of the code and is at least equivalent to code-prescribed construction. Public development of criteria allows for input from industry experts, the public, and building officials in determining the methods used to evaluate code intent and equivalence, somewhat similar to the code development process where consensus is important. The accreditation ensures that the organization uses a consistent process to perform the evaluations. This section is meant to reflect the current use of evaluation reports from accredited evaluation agencies or organizations.

2. When an applicant provides an evaluation from other than an accredited agency, or from a source that does not use publically developed and available criteria, the building official needs more information in order to perform a proper review. Not only does the building official need to evaluate the product, but also evaluate the method that the applicant has used to determine compliance with code intent and code equivalence. So in that case, it is proposed that the applicant would also have to provide the criteria that was used to do the evaluation, justification for use of that criteria, and data used for the evaluation, so a complete review can be made.

As stated earlier, this section has been in the code a long time, and we believe that it initially envisioned an alternative product or method review and approval process on a project-by-project basis, with substantiating tests and calculations or analyses provided with each permit application. Currently, a more efficient system has evolved where the same product evaluation reports are used in numerous projects, across many jurisdictions, and for many conditions. This evolution causes the need to revise this section to reflect current procedures.

However, the need for designers to be able to apply for one-time approval needs to be maintained, and that is the reason that "research reports" is maintained. In this case, though, when a method or material is not addressed by the code, the building official needs more information on the process that the evaluator used to determine that the method or material complies with the intent of the code.

The part of this section that deals with notification was revised to be consistent with Section 110.6, which states that when an inspection has failed, the building official has to "notify the permit holder or the permit holder's agent". It seems like disapproval of an alternate method or material is very similar to disapproval of an inspection, so the notification should be the same.

Finally, a minor change to the definition of "approved agency" removes the repeat of the word that is to be defined, agency, and replaces it with organization. Another revision allows the agency to furnish product evaluation in addition to certification, since evaluation and certification are two different things. Evaluation is for materials and methods not addressed by the code, and certification is for materials and methods that are addressed by the code.

For some codes, the definition of "approved agency" and "approved source" needed to be added.

The section on testing was renumbered to follow these new sections and put in the same format in all the codes. There are no technical changes.

There is a separate CCAC code change proposal that clarifies the use of certification, so that is not covered here.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The cost of this requirement is primarily on the manufacturer and the certification agency and is fairly negligible as many material manufacturers and certification organizations already engage in the described process.

ADM17-22 Part I

IBC: [A] 104.1; IEBC: [A] 104.1; IFC: [A] 104.1; IFGC: [A] 104.1; IMC: [A] 104.1; IPC: [A] 104.1; IPMC: [A] 105.1; IPSDC: [A] 104.1; ISPS: [A] 104.1; IWUIC: [A] 104.1; IGCC: 104.1

Proponents: John-Jozef Proczka, representing Self (john-jozef.proczka@phoenix.gov)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

[A] 104.1 General. The *building official* is hereby authorized and directed to enforce the provisions of this code. The *building official* shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such interpretations, policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

2021 International Existing Building Code

Revise as follows:

[A] 104.1 General. The *code official* is hereby authorized and directed to enforce the provisions of this code. The *code official* shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such interpretations, policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

2021 International Fire Code

Revise as follows:

[A] 104.1 General. The *fire code official* is hereby authorized to enforce the provisions of this code. The *fire code official* shall have the authority to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code. Such interpretations, policies, procedures, rules and regulations shall not have the effect of waiving requirements specifically provided for in this code.

2021 International Fuel Gas Code

Revise as follows:

[A] 104.1 General. The *code official* is hereby authorized and directed to enforce the provisions of this code. The *code official* shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such interpretations, policies and procedures shall not have the effect of waiving requirements specifically provided in this code.

2021 International Mechanical Code

Revise as follows:

[A] 104.1 General. The code official is hereby authorized and directed to enforce the provisions of this code. The code official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such interpretations, policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

2021 International Plumbing Code

Revise as follows:

[A] 104.1 General. The code official is hereby authorized and directed to enforce the provisions of this code. The code official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such interpretations, policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

2021 International Property Maintenance Code

Revise as follows:

[A] **105.1 General.** The *code official* is hereby authorized and directed to enforce the provisions of this code. The *code official* shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such interpretations, policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

2021 International Private Sewage Disposal Code

Revise as follows:

[A] **104.1 General.** The *code official* is hereby authorized and directed to enforce the provisions of this code. The *code official* shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such interpretations, policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

2021 International Swimming Pool and Spa Code

Revise as follows:

[A] **104.1 General.** The *code official* is hereby authorized and directed to enforce the provisions of this code. The *code official* shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such interpretations, policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

2021 International Wildland-Urban Interface Code

Revise as follows:

[A] **104.1 Powers and duties of the code official.** The *code official* is hereby authorized to enforce the provisions of this code. The *code official* shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretation s, polic ies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

2021 International Green Construction Code

Revise as follows:

104.1 General. The authority having jurisdiction is hereby authorized and directed to enforce the provisions of this code. The authority having jurisdiction shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions and how this code relates to other applicable codes and ordinances. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code and other applicable codes and ordinances. Such interpretations, policies and procedures shall not have the effect of waiving requirements specifically provided for in this code or other applicable codes and ordinances.

Reason: Not only can policies and procedures not waive requirements of the code, but it is also the intent that individual case-by-case interpretations not waive the specific requirements of the code. The current absence of this word leaves an odd situation where it is potentially OK for a building or code official to waive code requirements on case-by-case situations, but not in policies. This type of approach could leave to favoritism in enforcement of the code and every code section being optional and up to the discretion of the building or code official. Code modifications and alternatives are already present in the code, and as such when those provisions are used code requirements are not being waived.

This one word change is already present in the International Wildland-Urban Interface Code (good job IWUIC!) and this proposal only slightly changes the wording in that code to exactly agree.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

There is no cost impact since the proposed word addition is only clarifying what is already stated and required by the code section.

ADM17-22 Part II

IRC: R104.1

Proponents: John-Jozef Proczka, representing Self (john-jozef.proczka@phoenix.gov)

2021 International Residential Code

Revise as follows:

R104.1 General. The *building official* is hereby authorized and directed to enforce the provisions of this code. The *building official* shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such interpretations, policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

Reason: Not only can policies and procedures not waive requirements of the code, but it is also the intent that individual case-by-case interpretations not waive the specific requirements of the code. The current absence of this word leaves an odd situation where it is potentially OK for a building or code official to waive code requirements on case-by-case situations, but not in policies. This type of approach could leave to favoritism in enforcement of the code and every code section being optional and up to the discretion of the building or code official. Code modifications and alternatives are already present in the code, and as such when those provisions are used code requirements are not being waived.

This one word change is already present in the International Wildland-Urban Interface Code (good job IWUIC!) and this proposal only slightly changes the wording in that code to exactly agree.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is no cost impact since the proposed word addition is only clarifying what is already stated and required by the code section.

ADM18-22

IFC: [A] 104.1, [A] 104.9, [A] 104.9.1 (New), [A] 104.9.2 (New)

Proponents: Jeffrey Shapiro, Lake Travis Fire Rescue, representing Lake Travis Fire Rescue (jshapiro@lifr.org)

2021 International Fire Code

Revise as follows:

[A] 104.1 General. The *fire code official* is hereby authorized to enforce the provisions of this code. The *fire code official* shall have the authority to render interpretations of this code and to adopt policies, procedures, rules and regulations in order to clarify the application of its provisions. Such interpretations, policies, procedures, rules and regulations shall be in compliance with the intent and purpose of this code. Such policies, procedures, rules and regulations shall not have the effect of waiving requirements specifically provided for in this code, except as provided in Section 104.9.

[A] 104.9 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the *fire code official* shall have the authority to grant modifications. ~~The *fire code official* shall have the authority to grant modifications for individual cases, provided that the *fire code official* shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements. The details of action granting modifications shall be recorded and entered in the files of the department of fire prevention.~~

Add new text as follows:

[A] 104.9.1 Individual cases. The *fire code official* shall have the authority to grant modifications for individual cases, provided that the *fire code official* shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety requirements. The details of action granting modifications shall be recorded and entered in the files of the department of fire prevention.

[A] 104.9.2 Natural disasters. In preparation for, during and after a natural disaster event, as determined by the *fire code official*, the *fire code official* shall have the authority to issue written policies, procedures, rules or regulations that modify this code as necessary to protect life and property. Such policies, procedures, rules or regulations shall be made available to the public and shall include start and end dates, which can be extended at the *fire code official's* discretion.

Reason: Winter Storm Uri in 2021 is a good example demonstrating the need for granting authority to the fire code official to allow, by policy, conditions that would otherwise constitute code violations. For example, long-term power outages will eventually render many alarm systems non-functional, and extended loss of heat in buildings can lead to catastrophic freezing of fire suppression systems. Shutting down such systems and draining them can prevent catastrophic damage, allowing a system that might otherwise take months to repair to be placed back into service more quickly. If water remains in a system and freezing occurs, the system is non-functional anyway, so whether drained or not, protection is going to be impaired for some period of time. But, allowing more of a system to freeze vs. draining can be expected to result in increased water damage when the system thaws and much more extensive and time consuming repairs, This section could also be used to allow temporary emergency shelters that may not fully meet code requirements for a congregate residential use.

By adding text to the code that specifically addresses this concern, the fire code official will be guided to develop written documentation that should globally address special allowances that will be permitted during a disaster event, and as written, the authority to make any such allowances will remain solely in the hands of the fire code official.

This text is proposed only for the IFC because the IFC is unique among ICC codes with respect to its application to operation of existing buildings and to emergency response.

Cost Impact: The code change proposal will decrease the cost of construction

This proposal does not apply to construction, except to the possible extent that it might influence construction of emergency shelters or similar uses, in which case costs would presumably be reduced by allowing what might otherwise constitute non-compliant uses. There is no way to quantitatively measure any such cost impact.

ADM19-22

IFC: SECTION 202 (New)

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Fire Code

Add new definition as follows:

APPROVED AGENCY. An established and recognized agency that is regularly engaged in conducting tests, furnishing inspection services or furnishing product certification where such agency has been approved by the fire code official.

Reason: The term “approved agency” appears in the IFC and should, therefore, be defined in Chapter 2. This will provide consistency with the IBC and the IRC which already have this definition.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is only defining a term used in the IFC.

ADM20-22

IEBC: SECTION 202 (New)

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Existing Building Code

Add new definition as follows:

[A] APPROVED AGENCY. An established and recognized agency that is regularly engaged in conducting tests, furnishing inspection services or furnishing product certification where such agency has been approved by the fire code official.

Reason: The term “approved agency” appears in the IEBC and should, therefore, be defined in Chapter 2. This will provide consistency with the IBC and the IRC which already have this definition.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This is only defining a term in the IEBC to be consistent with the IBC and IRC.

ADM21-22

IBC: [A] 104.1

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Building Code

Add new text as follows:

[A] 104.1.1 Listed compliance. Listings required by this code shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the building official upon request.

Reason: When the code requires something to be listed, the test standard used or the listing evaluation must be germane to the code provision that is requiring the listing. Additionally, the installation must be in accordance with the manufacturer's instructions and copies of the listing standard and manufacturer's instructions must be made available to the code official.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This only clarifies that when something is required to be listed, the test standard used or the listing evaluation must be germane to the code provision that is requiring the listing. As with any listing, the installation must be in accordance with the manufacturer's instructions and the building official must have access to the listing standard and manufacturer's instructions.

ADM22-22

IEBC: [A] 104.1

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Existing Building Code

Add new text as follows:

[A] 104.1.1 Listed compliance. Listings required by this code shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the code official upon request.

Reason: When the code requires something to be listed, the test standard used or the listing evaluation must be germane to the code provision that is requiring the listing. Additionally, the installation must be in accordance with the manufacturer's instructions and copies of the listing standard and manufacturer's instructions must be made available to the code official.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This only clarifies that when something is required to be listed, the test standard used or the listing evaluation must be germane to the code provision that is requiring the listing. As with any listing, the installation must be in accordance with the manufacturer's instructions and the building official must have access to the listing standard and manufacturer's instructions.

ADM23-22

IFC: [A] 104.2

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Fire Code

Add new text as follows:

[A] 104.2.1 Listed compliance. Listings required by this code shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the fire code official upon request.

Reason: When the code requires something to be listed, the test standard used or the listing evaluation must be germane to the code provision that is requiring the listing. Additionally, the installation must be in accordance with the manufacturer's instructions and copies of the listing standard and manufacturer's instructions must be made available to the fire code official.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This only clarifies that when something is required to be listed, the test standard used or the listing evaluation must be germane to the code provision that is requiring the listing. As with any listing, the installation must be in accordance with the manufacturer's instructions and the fire code official must have access to the listing standard and manufacturer's instructions.

ADM24-22 Part I

IBC: [A] 104.8 (New), [A] 104.11.2; IEBC: 104.8 (New), [A] 104.11.2; IFC: 104.8 (New), [A] 104.10.2

Proponents: William Koffel, representing Spray Foam Coalition (wkoffel@koffel.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Add new text as follows:

[A] 104.8 Listed products. Where listed products are required by this code or a reference standard, the testing of the product shall be germane to the application of the product requirement in this code. Products used to comply with listing requirements in this code or a reference standard shall be tested and found suitable by the listing agency for the purpose specified by this code or the reference standard. As a condition of approval, the building official is authorized to require submittal of a listing standard to validate the applicability of the listing standard.

Revise as follows:

[A] 104.11.2 Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. Tests used to demonstrate equivalent fire safety performance properties shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. In the absence of recognized and accepted test methods, the *building official* shall approve the testing procedures. Tests shall be performed by an *approved agency*. Reports of such tests shall be retained by the *building official* for the period required for retention of public records.

2021 International Existing Building Code

Add new text as follows:

104.8 Listed products. Where listed products are required by this code or a reference standard, the testing of the product shall be germane to the application of the product requirement in this code. Products used to comply with listing requirements in this code or a reference standard shall be tested and found suitable by the listing agency for the purpose specified by this code or the reference standard. As a condition of approval, the building official is authorized to require submittal of a listing standard to validate the applicability of the listing standard.

Revise as follows:

[A] 104.11.2 Tests. Where there is insufficient evidence of compliance with the provisions of this code or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *code official* shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. Tests used to demonstrate equivalent fire safety performance properties shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. In the absence of recognized and accepted test methods, the *code official* shall approve the testing procedures. Tests shall be performed by an *approved agency*. Reports of such tests shall be retained by the *code official* for the period required for retention.

2021 International Fire Code

Add new text as follows:

104.8 Listed products. Where listed products are required by this code or a reference standard, the testing of the product shall be germane to the application of the product requirement in this code. Products used to comply with listing requirements in this code or a reference standard shall be tested and found suitable by the listing agency for the purpose specified by this code or the reference standard. As a condition of approval, the fire code official is authorized to require submittal of a listing standard to validate the applicability of the listing standard.

Revise as follows:

[A] 104.10.2 Tests. Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *fire code official* shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. Tests used to demonstrate equivalent fire safety performance properties shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. In the absence of recognized and accepted test methods, the *fire code official* shall approve the testing procedures. Tests shall be performed by an *approved agency*. Reports of such tests shall be retained by the *fire code official* for the period required for retention of public records.

Reason: During the hearings on F60-21 it was noted, by both proponents and opponents, that with respect to the use of the Alternative Methods

section for evaluating foam plastics there were concerns regarding the scale of fire tests to be used and the fact that the test needed to be representative of end-use configuration. That discussion has resulted in a major review and revision of the Alternate Methods provisions by an FCAC Working Group. This proposal intends to include two provisions of the proposal that was developed by the FCAC Working Group, and subsequently supported by BCAC, in the event that the overall proposal is not approved. The overall proposal was being developed at the same time as this proposal and therefore this proposal has been limited to the codes intended to be addressed by the overall proposal and that were impacted by the F60-21 action. The Committee may wish to expand the codes for which this language is being revised.

The first section from the broader proposal is a new paragraph regarding listed products. The language of the broader proposal has been revised but the intent remains the same. Where the Code requires a product to be listed, the standard use to list the product shall be germane the code requirement that requires the product to be listed.

The second section is a revision to the paragraph that addresses the use of tests as a means to document that the Alternative Method is acceptable. The sentence proposed to be added is exactly the same as what is in the broader proposal.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

With respect to the new paragraph addressing listed products, the proposed language is consistent with the existing intent of the Codes and how it is enforced in most jurisdictions.

With respect to the additional language regarding fire tests, it would only apply when an Alternate Method is used. The proposed language is consistent with current requirements for foam plastics. Presumably, with respect to other products the proposed language is consistent with how the codes are enforced in most jurisdictions.

ADM24-22 Part II

IRC: R104.9 (New), R104.11.1

Proponents: William Koffel, representing Spray Foam Coalition (wkoffel@koffel.com)

2021 International Residential Code

Add new text as follows:

R104.9 Listed products. Where *listed* products are required by this code or a reference standard, the testing of the product shall be germane to the application of the product requirement in this code. Products used to comply with listing requirements in this code or a reference standard shall be tested and found suitable by the listing agency for the purpose specified by this code or the reference standard. As a condition of approval, the *building official* is authorized to require submittal of a listing standard to validate the applicability of the listing standard.

Revise as follows:

R104.11.1 Tests. Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made at no expense to the *jurisdiction*. Test methods shall be as specified in this code or by other recognized test standards. Tests used to demonstrate equivalent fire safety performance properties shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. In the absence of recognized and accepted test methods, the *building official* shall approve the testing procedures. Tests shall be performed by an *approved* agency. Reports of such tests shall be retained by the *building official* for the period required for retention of public records.

Reason: During the hearings on F60-21 it was noted, by both proponents and opponents, that with respect to the use of the Alternative Methods section for evaluating foam plastics there were concerns regarding the scale of fire tests to be used and the fact that the test needed to be representative of end-use configuration. That discussion has resulted in a major review and revision of the Alternate Methods provisions by an FCAC Working Group. This proposal intends to include two provisions of the proposal that was developed by the FCAC Working Group, and subsequently supported by BCAC, in the event that the overall proposal is not approved. The overall proposal was being developed at the same time as this proposal and therefore this proposal has been limited to the codes intended to be addressed by the overall proposal and that were impacted by the F60-21 action. The Committee may wish to expand the codes for which this language is being revised.

The first section from the broader proposal is a new paragraph regarding listed products. The language of the broader proposal has been revised but the intent remains the same. Where the Code requires a product to be listed, the standard use to list the project shall be germane the code requirement that requires the product to be listed.

The second section is a revision to the paragraph that addresses the use of tests as a means to document that the Alternative Method is acceptable. The sentence proposed to be added is exactly the same as what is in the broader proposal.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

With respect to the new paragraph addressing listed products, the proposed language is consistent with the existing intent of the Codes and how it is enforced in most jurisdictions.

With respect to the additional language regarding fire tests, it would only apply when an Alternate Method is used. The proposed language is consistent with current requirements for foam plastics. Presumably, with respect to other products the proposed language is consistent with how the codes are enforced in most jurisdictions.

ADM25-22

IFC: [A] 104.10

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Fire Code

Revise as follows:

[A] 104.10 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *fire code official* finds that the proposed alternate meets all of the following:

1. The alternate material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in_ as it pertains to the following:
 - 2.1. Quality quality_;
 - 2.2. Strength strength_;
 - 2.3. Effectiveness effectiveness_;
 - 2.4. Fire fire-resistance_;
 - 2.5. Durability durability_ and
 - 2.6. Safety safety.

Where the alternative material, design or method of construction is not *approved*, the *fire code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Reason: This section can be written more clearly as to the various criteria that must be met in order to be approved as an alternate material, design or method of construction. This will make it easier for the building official to make the necessary evaluation and decision. Should the alternate not be approved, it will also make it easier for the building official to cite the reasons for disapproval. There are no changes to the various requirements that the building official or fire code official must consider. During the last code cycle, this change was approved in the IBC and was well received by the committee and membership who agreed that it made it easier to read.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are no changes to the requirements in this section.

ADM26-22

IEBC: [A] 104.11

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Existing Building Code

Revise as follows:

[A] 104.11 Alternative materials, design and methods of construction, and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed alternate meets all of the following:

1. The alternate material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in as it pertains to the following:

 - 2.1. Quality ~~quality~~;
 - 2.2. Strength ~~strength~~;
 - 2.3. Effectiveness ~~effectiveness~~;
 - 2.4. Fire ~~fire~~-resistance;
 - 2.5. Durability ~~durability~~ and
 - 2.6. Safety ~~safety~~.

Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Reason: This section can be written more clearly as to the various criteria that must be met in order to be approved as an alternate material, design or method of construction. This will make it easier for the building official to make the necessary evaluation and decision. Should the alternate not be approved, it will also make it easier for the building official to cite the reasons for disapproval. There are no changes to the various requirements that the building official must consider. During the last code cycle, this change was approved in the IBC and was well received by the committee and membership who agreed that it made it easier to read.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are no changes to the existing requirements.

ADM27-22

IWUIC: [A] 105.3

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Wildland-Urban Interface Code

Revise as follows:

[A] 105.3 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *building official* in concurrence with the fire chief finds that the proposed alternate meets all of the following:

1. The alternate material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in as it pertains to the following:
 - 2.1. Quality equality .;
 - 2.2. Strength strength .;
 - 2.3. Effectiveness effectiveness .;
 - 2.4. Fire fire-resistance .;
 - 2.5. Durability durability . and
 - 2.6. Safety safety .

Where the alternative material, design or method of construction is not *approved*, the *building official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Reason: This section can be written more clearly as to the various criteria that must be met in order to be approved as an alternate material, design or method of construction. This will make it easier for the building official to make the necessary evaluation and decision. Should the alternate not be approved, it will also make it easier for the building official to cite the reasons for disapproval. The word “construction” has been added after the word “method” and the word “equipment” has been added in the heading so it is consistent with the IBC, IEBC, IFC, and IRC. There are no changes to the various requirements that the building official or fire code official must consider. During the last code cycle, this change was approved in the IBC and was well received by the committee and membership who agreed that it made it easier to read.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are no changes to the requirements in this section.

ADM28-22

IWUIC: [A] 105.3

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Wildland-Urban Interface Code

Revise as follows:

[A] 105.3 Alternative materials, design and methods. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method shall be submitted in writing and be approved where the *building official* in concurrence with the fire chief finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, *fire resistance*, durability and safety. Where the alternative material, design or method is not *approved*, the *building official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Reason: A request to use an alternative material, design or method of construction must be explained and documented in writing so a proper evaluation can be made. Placing this requirement in this section makes it clear that a request for an alternate must be submitted in writing.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This will avoid needless delays and misunderstandings over a verbal request for an alternate.

ADM29-22

IEBC: [A] 104.11

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Existing Building Code

Revise as follows:

[A] 104.11 Alternative materials, design and methods of construction, and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be submitted in writing and be approved where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Reason: A request to use an alternative material, design or method of construction must be explained and documented in writing so a proper evaluation can be made. Placing this requirement in this section makes it clear that a request for an alternate must be submitted in writing.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This will avoid needless delays and misunderstandings over a verbal request for an alternate

ADM30-22

IBC: [A] 104.11.1

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Building Code

Revise as follows:

[A] 104.11.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from an approved source agency accredited to evaluate or certify products. The alternative material, design or method of construction and product evaluated shall be within the scope of accreditation and the criteria used for the evaluation shall be referenced within the report.

Reason: It is sometimes difficult to determine the legitimacy of a research report. Agency accreditation is an excellent way to determine the legitimacy and reliability of research reports issued by such agencies. This will be valuable when the building official reviews a research report.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The new language only requires that the approved agency be accredited to evaluate or certify products.

ADM31-22

IEBC: [A] 104.11.1

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Existing Building Code

Revise as follows:

[A] 104.11.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from an approved source agency accredited to evaluate or certify products. The alternative material, design or method of construction and product evaluated shall be within the scope of accreditation and the criteria used for the evaluation shall be referenced within the report.

Reason: It is sometimes difficult to determine the legitimacy of a research report. Agency accreditation is an excellent way to determine the legitimacy and reliability of research reports issued by such agencies. This will be valuable when the building official reviews a research report.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The new language only requires that the approved agency be accredited to evaluate or certify products.

ADM32-22

IFC: [A] 104.10.1

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Fire Code

Revise as follows:

[A] 104.10.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from an approved sources agency accredited to evaluate or certify products. The alternative material, design or method of construction and product evaluated shall be within the scope of accreditation and the criteria used for the evaluation shall be referenced within the report.

Reason: It is sometimes difficult to determine the legitimacy of a research report. Agency accreditation is an excellent way to determine the legitimacy and reliability of research reports issued by such agencies. This will be valuable when the building official reviews a research report.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The new language only requires that the approved agency be accredited to evaluate or certify products.

ADM33-22

IWUIC: [A] 105.3

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Wildland-Urban Interface Code

Add new text as follows:

[A] 105.3.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from an approved agency accredited to evaluate or certify products. The alternative material, design or method of construction and product evaluated shall be within the scope of accreditation and the criteria used for the evaluation shall be referenced within the report.

Reason: It is sometimes difficult to determine the legitimacy of a research report. Agency accreditation is an excellent way to determine the legitimacy and reliability of research reports issued by such agencies. The IBC, IEBC, IFC, IFGC, IMC, IPC, IPMC, IPSDC have provisions for the use of valid research reports as an aid to alternate approval.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This new section does not require that a research report be submitted when requesting an alternate, only that when one is submitted to support a request for an alternate, the issuing agency be accredited to evaluate or certify products and that the alternative material, design or method of construction and product evaluated be within the scope of accreditation and the criteria used for the evaluation be referenced within the report.

ADM34-22 Part I

IEBC: [A] 104.11, [A] 104.11.1; IFC: [A] 104.10, [A] 104.10.1; IFGC: [A] 105.2, [A] 105.2.1; IMC: [A] 105.2, [A] 105.2.1; IPC: [A] 105.2, [A] 105.2.1; IPMC: [A] 106.2, [A] 106.6; IPSDC: [A] 105.2, [A] 105.2.1; ISPSC: [A] 104.10, 104.10.1 (New); IWUIC: [A] 105.3, 105.3.1 (New); IGCC: 105.4, 105.4.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Existing Building Code

Revise as follows:

[A] 104.11 Alternative materials, design and methods of construction, and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code ~~in~~ as it pertains to the following:
 - 2.1. Quality,
 - 2.2. Strength,
 - 2.3. Effectiveness,
 - 2.4. Fire resistance,
 - 2.5. Durability, ~~and~~
 - 2.6. Safety.

Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

[A] 104.11.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

2021 International Fire Code

Revise as follows:

[A] 104.10 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *fire code official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
-
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code ~~in~~ as it pertains to the following:
 - 2.1. Quality;
 - 2.2. Strength;
 - 2.3. Effectiveness;
 - 2.4. Fire resistance;
 - 2.5. Durability, ~~and~~
 - 2.6. Safety.

Where the alternative material, design or method of construction is not *approved*, the *fire code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

[A] 104.10.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

2021 International Fuel Gas Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed alternative meets all of the following:

1. ~~The alternative material, design or method of construction~~ is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code ~~in~~ as it pertains to the following:
 - 2.1. Quality;
 - 2.2. Strength;
 - 2.3. Effectiveness;
 - 2.4. Fire effectiveness;
 - 2.5. Durability ~~and~~
 - 2.6. Safety.

Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

[A] 105.2.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

2021 International Mechanical Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed alternative meets all of the following:

1. ~~The alternative material, design or method of construction~~ is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code ~~in~~ as it pertains to the following:
 - 2.1. Quality;
 - 2.2. Strength;
 - 2.3. Effectiveness;
 - 2.4. Fire effectiveness;
 - 2.5. Durability ~~and~~
 - 2.6. Safety.

Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

[A] 105.2.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

2021 International Plumbing Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code ~~in~~ as it pertains to the following:
 - 2.1. Quality;
 - 2.2. Strength;
 - 2.3. Effectiveness;
 - 2.4. Fire effectiveness;
 - 2.5. Durability ~~and~~
 - 2.6. Safety.

Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

[A] 105.2.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

2021 International Property Maintenance Code

Revise as follows:

[A] 106.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code ~~in~~ as it pertains to the following:
 - 2.1. Quality;
 - 2.2. Strength;
 - 2.3. Effectiveness;
 - 2.4. Fire effectiveness;
 - 2.5. Durability ~~and~~
 - 2.6. Safety.

Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

[A] ~~106.6-106.2.1~~ 106.2.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

2021 International Private Sewage Disposal Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code ~~in~~ as it pertains to the following:
 - 2.1. Quality;
 - 2.2. Strength;
 - 2.3. Effectiveness;
 - 2.4. Fire effectiveness;
 - 2.5. Durability ~~and~~
 - 2.6. Safety.

Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

[A] 105.2.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

2021 International Swimming Pool and Spa Code

Revise as follows:

[A] 104.10 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code ~~in~~ as it pertains to the following:
 - 2.1. Quality;
 - 2.2. Strength;
 - 2.3. Effectiveness;
 - 2.4. Fire effectiveness;
 - 2.5. Durability ~~and~~
 - 2.6. Safety.

Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

104.10.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

2021 International Wildland-Urban Interface Code

Revise as follows:

[A] 105.3 Alternative materials, design and methods. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method shall be *approved* where the *building official* in concurrence with the fire chief finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, *fire resistance*, durability and safety.

The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the

building official in concurrence with the fire chief finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in as it pertains to the following:
 - 2.1. Quality;
 - 2.2. Strength;
 - 2.3. Effectiveness;
 - 2.4. Fire effectiveness;
 - 2.5. Durability ~~and~~
 - 2.6. Safety.

Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

105.3.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

2021 International Green Construction Code

Revise as follows:

105.4 Innovative approaches and alternative Alternative materials, design, and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design, ~~innovative approach~~, or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design, ~~innovative approach~~ or method of construction shall be reviewed and *approved* where the authority having jurisdiction finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, ~~design~~, method or work offered is, for the purpose intended, not less than at least the equivalent of that prescribed in this code.

~~The details of granting the use of alternative materials, designs, innovative approach and methods of construction shall be recorded and entered in the files of the department.~~

Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons the alternative was not approved.

105.4.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

Reason: ADM19-19 modified IBC Section 104.11, but did not make the same suggestion across all the codes. The changes to this section were primarily formatting, with some slight reordering. This same change to be applicable to all the codes. It was also noted that not all of the codes included a subsection on research reports as an aid to alternative approval.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020

and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This is primarily a format change.

ADM34-22 Part II

IRC: R104.11, R104.11.1 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

R104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code. ~~The building official shall have the authority to approve an~~ An alternative material, design or method of construction upon application of the owner or the owner's authorized agent. The shall be approved where the building official shall first find finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code ~~in~~ as it pertains to the following:
 - 2.1. Quality;
 - 2.2. Strength;
 - 2.3. Effectiveness;
 - 2.4. Fire effectiveness;
 - 2.5. Durability ~~and~~
 - 2.6. Safety.

~~Compliance with the specific performance based provisions of the International Codes shall be an alternative to the specific requirements of this code. Where the alternative material, design or method of construction is not approved, the building official shall respond in writing, stating the reasons why the alternative was not approved.~~

Add new text as follows:

R104.11.1 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from approved sources.

-

Reason: ADM19-19 modified IBC Section 104.11, but did not make the same suggestion across all the codes. The changes to this section were primarily formatting, with some slight reordering. This same change to be applicable to all the codes. It was also noted that not all of the codes included a subsection on research reports as an aid to alternative approval.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is primarily a format change.

ADM35-22

IBC: [A] 104.11; IEBC: [A] 104.11; IFC: [A] 104.10; IFGC: [A] 105.2; IMC: [A] 105.2; IPC: [A] 105.2; IPSDC: [A] 105.2

Proponents: David Collins, representing Self (dcollins@preview-group.com); Ronald Geren, representing The American Institute of Architects (ron@specsandcodes.com); Paul Karrer, representing The American Institute of Architects (paulkarrer@aia.org)

2021 International Building Code

Revise as follows:

[A] 104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code,
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code as it pertains to the following:
 - 2.1. Quality.
 - 2.2. Strength.
 - 2.3. Effectiveness.
 - 2.4. *Fire resistance*.
 - 2.5. Durability.
 - 2.6. Safety.

Where the alternative material, design or method of construction is not approved, the *building official* shall respond in writing, stating the reasons why the alternative was not approved.

Exception: Performance-based alternative materials, designs or methods of construction complying with the ICC Performance Code.

2021 International Existing Building Code

Revise as follows:

[A] 104.11 Alternative materials, design and methods of construction, and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Exception: Performance-based alternative materials, designs or methods of construction complying with the ICC Performance Code

2021 International Fire Code

Revise as follows:

[A] 104.10 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *fire code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, *fire resistance*, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *fire code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Exception: Performance-based alternative materials, designs or methods of construction and equipment complying with the ICC Performance Code.

2021 International Fuel Gas Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Exception: Performance-based alternative materials, designs or methods of construction and equipment complying with the ICC Performance Code.

2021 International Mechanical Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Exception: Performance-based alternative materials, designs or methods of construction and equipment complying with the ICC Performance Code.

2021 International Plumbing Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material or method of construction shall be *approved* where the code official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not *approved*, the code official shall respond in writing, stating the reasons why the alternative was not *approved*.

Exception: Performance-based alternative materials, designs or methods of construction and equipment complying with the ICC Performance Code.

2021 International Private Sewage Disposal Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Exception: Performance-based alternative materials, designs or methods of construction and equipment complying with the ICC Performance Code.

Reason: The ICC Performance Code (ICCPC) should not be considered solely for whole building designs, but also as another pathway for evaluating alternative materials, designs, and methods of construction. When projects are designed per the prescriptive requirements of any ICC code, there are situations where a single material, element, or system cannot conform to the prescriptive requirements. Also, new materials, elements, or systems are entering the construction market at a pace that the prescriptive codes cannot keep up. This provision will allow owners, designers and building officials to consider such advances in such materials, elements of designs using the Performance Code for guidance. Although the prescriptive provisions in each of the codes provides one pathway for approval of alternative materials, designs, and methods of construction, the ICCPC should not be overlooked as an alternative pathway. The ICCPC may be considered by the building official as an alternative method in and of itself per any of the sections listed, by including it within the text of each section will draw much greater attention to the ICCPC and thereby increase its use and adoption.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This change to the above mentioned codes do not add a requirement that individual projects must comply with. It provides an additional option for those projects that wish to pursue more performance-based solutions. ICC's Cost Impact Guide cites code change proposals that modify the design requirements (e.g. greater number of design options, design process efficiencies) as recognized instance of proposals that do not affect the construction or construction cost. Providing projects a route to use the ICC Performance Code to evaluate materials, designs and methods of construction does not impact the cost of construction.

ADM36-22 Part I

IBC: [A] 104.11, [A] 104.11.1 (New), [A] 104.11.2 (New), [A] 104.11.1, [A] 104.11.2; IEBC: [A] 104.11, [A] 104.11.1 (New), [A] 104.11.2 (New), [A] 104.11.1, [A] 104.11.2; IFC: [A] 104.10, [A] 104.10.1 (New), [A] 104.10.2 (New), [A] 104.10.1, [A] 104.10.2; IFGC: [A] 105.2, [A] 105.2.1 (New), [A] 105.2.2 (New), [A] 105.2.1; IMC: [A] 105.2, [A] 105.2.1 (New), [A] 105.2.2 (New), [A] 105.2.1; IPC: [A] 105.2, [A] 105.2.1 (New), [A] 105.2.2 (New), [A] 105.2.1; IPMC: [A] 106.2, [A] 106.2.1 (New), [A] 106.2.2 (New); IWUIC: [A] 105.3, [A] 105.3.1 (New), [A] 105.3.2 (New)

Proponents: Marcelo Hirschler, representing GBH International (mmh@gbhint.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

[A] 104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *building official* finds that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code,
2. The material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code as it pertains to the following:
 - 2.1. Quality.
 - 2.2. Strength.
 - 2.3. Effectiveness.
 - 2.4. ~~Fire resistance.~~
 - ~~2-5-2.4.~~ Durability.
 - ~~2-6-2.5.~~ Safety.

Where the alternative material, design or method of construction is not approved, the *building official* shall respond in writing, stating the reasons why the alternative was not approved.

Add new text as follows:

[A] 104.11.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.11.2 Fire Tests. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

Revise as follows:

[A] ~~104.11.1-104.11.3~~ Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

[A] ~~104.11.2-104.11.4~~ Tests. Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *building official* shall approve the testing procedures. Tests shall be performed by an *approved agency*. Reports of such tests shall be retained by the *building official* for the period required for retention of public records.

2021 International Existing Building Code

Revise as follows:

[A] 104.11 Alternative materials, design and methods of construction, and equipment. The provisions of this code are not intended to

prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, ~~fire resistance~~, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

[A] 104.11.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.11.2 Fire Tests. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

Revise as follows:

[A] ~~104.11.1~~ 104.11.3 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

[A] ~~104.11.2~~ 104.11.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *code official* shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *code official* shall approve the testing procedures. Tests shall be performed by an *approved* agency. Reports of such tests shall be retained by the *code official* for the period required for retention.

2021 International Fire Code

Revise as follows:

[A] 104.10 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *fire code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, ~~fire resistance~~, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *fire code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

[A] 104.10.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 104.10.2 Fire tests. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the fire code official.

Revise as follows:

[A] ~~104.10.1~~ 104.10.3 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

[A] ~~104.10.2~~ 104.10.4 Tests. Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *fire code official* shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *fire code official* shall approve the testing procedures. Tests shall be performed by an *approved* agency. Reports of such tests shall be retained by the *fire code official* for the period required for retention of public records.

2021 International Fuel Gas Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, ~~fire resistance~~, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

[A] 105.2.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 105.2.2 Fire tests. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

Revise as follows:

[A] ~~105.2.1~~ 105.2.3 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

2021 International Mechanical Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, ~~fire resistance~~, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

[A] 105.2.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 105.2.2 Fire tests. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

Revise as follows:

[A] ~~105.2.1~~ 105.2.3 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

2021 International Plumbing Code

Revise as follows:

[A] 105.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, ~~fire resistance~~, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

[A] 105.2.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 105.2.2 Fire tests. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

Revise as follows:

[A] ~~105.2.1~~ 105.2.3 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

2021 International Property Maintenance Code

Revise as follows:

[A] 106.2 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method of construction shall be *approved* where the *code official* finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, ~~fire resistance~~, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *code official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

[A] 106.2.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 106.2.2 Fire tests. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the code official.

2021 International Wildland-Urban Interface Code

Revise as follows:

[A] 105.3 Alternative materials, design and methods. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method not specifically prescribed by this code, provided that any such alternative has been *approved*. An alternative material, design or method shall be *approved* where the *building official* in concurrence with the fire chief finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, ~~fire resistance~~, durability and safety. Where the alternative material, design or method is not *approved*, the *building official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

[A] 105.3.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

[A] 105.3.2 Fire tests. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the building official.

Reason: The intent of this code proposal is to clarify equivalency in terms of fire safety, which is incorrect and misleading as described simply in terms of fire resistance at present. In fact, fire resistance is only a subset of all aspects of fire safety. Therefore, it is better to have a safety analysis look at the issue of fire safety more comprehensively.

As revised, fire resistance would be deleted from the list, and a separate section added that more fully addresses fire safety. A proper fire safety analysis performed under this section should always have taken these considerations into account, but having them specifically stated, and removing the incorrect term "fire resistance" item from the list will help code officials and code users by providing more thorough guidance for preparation of alternative method proposals. Additional guidance has also been provided to ensure that fire testing done in support of an alternative

method proposal is of a sufficient scale to be relevant to the end use application.

This proposal is a portion of a more wide-ranging proposal that revises the entire section 104. The language relating to the fire safety aspects is identical to that agreed to for that proposal.

Equivalent changes are being proposed to all 9 ICC codes for which fire safety is a relevant issue in terms of alternate materials and methods.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

There is no cost impact since this code proposal only clarifies the intent of the section and provides clearer guidance to the building, fire or code official.

ADM36-22 Part II

IRC: R104.11, R104.11.1 (New), R104.11.2 (New), R104.11.1

Proponents: Marcelo Hirschler, representing GBH International (mmh@gbhint.com)

2021 International Residential Code

Revise as follows:

R104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code. The *building official* shall have the authority to approve an alternative material, design or method of construction upon application of the *owner* or the owner's authorized agent. The *building official* shall first find that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, ~~fire resistance~~, durability and safety. Compliance with the specific performance-based provisions of the International Codes shall be an alternative to the specific requirements of this code. Where the alternative material, design or method of construction is not *approved*, the *building official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Add new text as follows:

R104.11.1 Fire safety equivalency. Determination of safety equivalency, with respect to fire, shall be based on an analysis that includes applicable fire safety performance properties, such as but not limited to ignitability, flame spread, heat release rate, heat of combustion, smoke development, and fire resistance. Determination of safety equivalency, with respect to structural fire safety, shall also include a structural system analysis.

R104.11.2 Fire tests. Tests conducted to demonstrate equivalent fire safety in support of an alternative material, design or method of construction application shall be of a scale that is sufficient to predict fire safety performance of the end use configuration. Tests shall be performed by a party acceptable to the building official.

Revise as follows:

~~R104.11.1~~ **R104.11.3 Tests.** Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made at no expense to the *jurisdiction*. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *building official* shall approve the testing procedures. Tests shall be performed by an *approved* agency. Reports of such tests shall be retained by the *building official* for the period required for retention of public records.

Reason: The intent of this code proposal is to clarify equivalency in terms of fire safety, which is incorrect and misleading as described simply in terms of fire resistance at present. In fact, fire resistance is only a subset of all aspects of fire safety. Therefore, it is better to have a safety analysis look at the issue of fire safety more comprehensively.

As revised, fire resistance would be deleted from the list, and a separate section added that more fully addresses fire safety. A proper fire safety analysis performed under this section should always have taken these considerations into account, but having them specifically stated, and removing the incorrect term "fire resistance" item from the list will help code officials and code users by providing more thorough guidance for preparation of alternative method proposals. Additional guidance has also been provided to ensure that fire testing done in support of an alternative method proposal is of a sufficient scale to be relevant to the end use application.

This proposal is a portion of a more wide-ranging proposal that revises the entire section 104. The language relating to the fire safety aspects is identical to that agreed to for that proposal.

Equivalent changes are being proposed to all 9 ICC codes for which fire safety is a relevant issue in terms of alternate materials and methods.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

There is no cost impact since this code proposal only clarifies the intent of the section and provides clearer guidance to the building official.

ADM40-22

IPSDC: SECTION 107 (New), [A] 106.4, 107.2 (New), [A] 106.4.2, 107.3 (New), [A] 106.4.1, [A] 106.4.3, 107.5 (New), 107.6 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, representing Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgac@iccsafe.org)

2021 International Private Sewage Disposal Code

Add new text as follows:

SECTION 107 FEES

Revise as follows:

[A] ~~106.4~~ **107.1 Fees Payment of fees.** A permit shall not be issued valid until the fees prescribed in Section 106.4.2 by law have been paid, and an amendment to a permit shall not be released until the additional fee, if any, due to an increase of the private sewage disposal system, has been paid.

Add new text as follows:

107.2 Schedule of permit fees. Where work requires a permit, a fee for each permit shall be paid as required, in accordance with the schedule as established by the applicable governing authority.

Delete without substitution:

[A] ~~106.4.2 Fee schedule.~~ The fees for all private sewage disposal work shall be as indicated in the following schedule:
[JURISDICTION TO INSERT APPROPRIATE SCHEDULE].

Add new text as follows:

107.3 Permit valuations. The applicant for a permit shall provide an estimated value of the work for which the permit is being issued at time of application. Such estimated valuations shall include the total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. Where, in the opinion of the building official, the valuation is underestimated, the permit shall be denied, unless the applicant can show detailed estimates acceptable to the building official. The building official shall have the authority to adjust the final valuation for permit fees.

Revise as follows:

[A] ~~106.4.1~~ **107.4 Work commencing before permit issuance.** Any person who commences any work on a private sewage disposal system before obtaining the necessary permits shall be subject to 100 percent of the usual permit fee a fee established by the code official that shall be in addition to the required permit fees.

Delete without substitution:

[A] ~~106.4.3 Fee refunds.~~ The code official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid where no work has been done under a permit issued in accordance with this code.
3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid where an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.

The code official shall not authorize the refunding of any fee paid except upon written application filed by the original permittee no later than 180 days after the date of fee payment.

Add new text as follows:

107.5 Related fees. The payment of the fee for the construction, alteration, removal or demolition for work done in connection to or concurrently with the work authorized by a permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

107.6 Refunds. The code official is authorized to establish a refund policy.

Reason: The intent of this proposal is coordination for the section Fees in IPSDC with the other ICC codes. Since one city department will handle permit fees for construction, the requirements for administration should be the same across codes.

There were two different proposals to address consistency in the Fees section (ADM 27-19 and ADM 33-19) – the end result was coordination between the 2021 codes. for – IBC, IFC, IEBC, IMC, IPC, IPMC, IFGC, ISPSC, IWUIC and IZC. ADM27-19 should have included IPSDC, however it was missed.

The IPSDC required the insertion of a table for fees and sets a policy for refunds. If the jurisdiction is on a code for 3 to 6 years, this would prohibit them from adjusting their fees. What the policy is for refunds should also be determined by the department. ADM27-19 removed similar text in the IMC, IPC, IPMC, IFGC, and ISPSC.

The current text does not address permit valuations or related fees. The more generic language for refunds allows for the department to establish a policy rather than have that set in the codes.

The BCAC is working from the philosophy that ICC is a family of codes, so administrative requirements should be consistent across books. Most administrative and enforcement matters are the same for any code. Those matters unique for a specific code remain unchanged. This is one of a series of proposals being submitted relating to technical, editorial and organizational changes proposed for the Administrative chapters (Chapter 1) in all of the I-Codes.

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC) in coordination with the ICC Building Code Action Committee (BCAC).

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an editorial change that provides consistency between I-codes.

ADM41-22 Part I

IBC: SECTION 108, [A] 108.1, [A] 108.2, [A] 108.3, [A] 108.4, SECTION 112, [A] 112.1, [A] 112.2, [A] 112.3; IEBC: SECTION 107, [A] 107.1, [A] 107.2, [A] 107.3, [A] 107.4, SECTION 111, [A] 111.1, [A] 111.2, [A] 111.3; IFC: SECTION 106 (New), 106.1 (New), 106.2 (New), 106.3 (New), 106.4 (New), SECTION 110, [A] 110.1; IFGC: SECTION 110, [A] 110.1, [A] 110.2, 110.3, SECTION 111, [A] 111.1, [A] 111.2, [A] 111.3, [A] 111.4; IMC: SECTION 107, [A] 107.1, [A] 107.2, [A] 107.3, [A] 107.4, SECTION 112, [A] 112.1, [A] 112.2, [A] 112.3; IPC: SECTION 107, [A] 107.1, [A] 107.2, [A] 107.3, [A] 107.4, SECTION 112, [A] 112.1, [A] 112.2, [A] 112.3; IPSDC: SECTION 109, [A] 109.1, [A] 109.2, [A] 109.3, [A] 109.4, SECTION 110, [A] 110.1, [A] 110.2, [A] 110.3; ISPSC: SECTION 106 (New), 106.1 (New), 106.2 (New), 106.3 (New), 106.4 (New), SECTION 109, [A] 109.1, [A] 109.2, [A] 109.3; IWUIC: SECTION 108, [A] 108.1, [A] 108.2, 108.3 (New), [A] 108.3, SECTION 112, [A] 112.1, [A] 112.2, [A] 112.3

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, representing Chair of PMGCAC (pmgcac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

SECTION 108

TEMPORARY STRUCTURES ~~AND USES~~, EQUIPMENT AND SYSTEMS

[A] 108.1 General. The *building official* is authorized to issue a *permit* for temporary structures ~~and temporary uses~~, equipment or systems. Such *permits* shall be limited as to time of service, but shall not be permitted for more than 180 days. The *building official* is authorized to grant extensions for demonstrated cause.

[A] 108.2 Conformance. Temporary structures ~~and uses~~ shall comply with the requirements in Section 3103.

[A] 108.3 Temporary ~~power~~ service utilities. The *building official* is authorized to give permission to temporarily supply service utilities in accordance with Section 112, ~~and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in NFPA 70.~~

[A] 108.4 Termination of approval. The *building official* is authorized to terminate such *permit* for a temporary structure, equipment, ~~or use~~ system and to order the ~~temporary structure or use~~ same to be discontinued.

SECTION 112

SERVICE UTILITIES

[A] 112.1 Connection of service utilities. A person shall not make connections from a utility, a source of energy, fuel, or power, or a water system or sewer system to any building or system that is regulated by this code for which a *permit* is required, until approved by the *building official*.

[A] 112.2 Temporary connection. The *building official* shall have the authority to authorize the temporary connection of the building or system to the utility, the source of energy, fuel, or power, or the water system or sewer system for the purpose of testing systems or for use under a temporary approval.

[A] 112.3 Authority to disconnect service utilities. The *building official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 112.1 or 112.2. The *building official* shall notify the serving utility, and wherever possible the *owner* or the owner's authorized agent and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the *owner* or the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

2021 International Existing Building Code

Revise as follows:

SECTION 107

TEMPORARY STRUCTURES ~~AND USES~~, EQUIPMENT AND SYSTEMS

[A] 107.1 General. The *code official* is authorized to issue a permit for temporary uses, equipment and systems. Such permits shall be limited as to time of service but shall not be permitted for more than 180 days. The *code official* is authorized to grant extensions for demonstrated cause.

[A] 107.2 Conformance. Temporary uses shall conform to the ~~structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary~~ requirements of this code as necessary to ensure the ~~public health, safety and general welfare.~~

[A] 107.3 Temporary power service utilities. The *code official* is authorized to give permission to temporarily supply service utilities in accordance with Section 111. ~~and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in NFPA 70.~~

[A] 107.4 Termination of approval. The *code official* is authorized to terminate such permit for a temporary use and to order the ~~temporary use~~ same to be discontinued.

SECTION 111 SERVICE UTILITIES

[A] 111.1 Connection of service utilities. A person shall not make connections from a utility, source of energy, fuel, power, water system or sewer system to any building or system that is regulated by this code for which a permit is required, until *approved by the code official*.

[A] 111.2 Temporary connection. The *code official* shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or sewer system for the purpose of testing systems or for use under a temporary approval.

[A] 111.3 Authority to disconnect service utilities. The *code official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 111.1 or 111.2. The *code official* shall notify the serving utility and, wherever possible, the owner or the owner's authorized agent and the occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

2021 International Fire Code

Add new text as follows:

SECTION 106 **TEMPORARY STRUCTURES, USES, EQUIPMENT AND SYSTEMS**

106.1 General. The fire code official is authorized to issue a permit for temporary structures, uses, equipment or systems as required in Sections 105.5 and 105.6. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The fire code official is authorized to grant extensions for demonstrated cause.

106.2 Conformance. Temporary uses, equipment and systems shall conform to the requirements of this code as necessary to ensure health, safety and general welfare.

106.3 Temporary service utilities. The fire code official is authorized to give permission to temporarily supply service utilities in accordance with Section 110.

106.4 Termination of approval. The fire code official is authorized to terminate such permit for a temporary uses, equipment, or system and to order the same to be discontinued.

SECTION 110 SERVICE UTILITIES

[A] 110.1 Authority to disconnect service utilities. The *fire code official* shall have the authority to authorize disconnection of utility service to the building, structure or system in order to safely execute emergency operations or to eliminate an immediate hazard. The *fire code official* shall notify the serving utility and, where possible, the *owner* or the *owner*'s authorized agent and the occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnection, then the *owner*, the *owner*'s authorized agent or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

2021 International Fuel Gas Code

SECTION 110 SERVICE UTILITIES

[A] 110.1 Connection of service utilities. A person shall not make connections from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a permit is required until authorized by the *code official*.

[A] 110.2 Temporary connection. The *code official* shall have the authority to authorize the temporary connection of the building or system to the

utility, source of energy, fuel, power, water system or sewer system for the purpose of testing the installation or for use under a temporary approval.

110.3 Authority to disconnect service utilities. The *code official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 112.1 or 112.2. The *code official* shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system, of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

Revise as follows:

SECTION 111 TEMPORARY USES, EQUIPMENT, AND SYSTEMS ~~AND USES~~

[A] 111.1 General. The *code official* is authorized to issue a permit for temporary uses, equipment, and systems ~~and uses~~. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The *code official* is authorized to grant extensions for demonstrated cause.

[A] 111.2 Conformance. Temporary uses, equipment, and systems ~~and uses~~ shall conform to the ~~structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary~~ requirements of this code as necessary to ensure the public health, safety and general welfare.

[A] 111.3 Temporary utilities. The *code official* is authorized to give permission to temporarily supply service utilities in accordance with Section 110 ~~before an installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the code.~~

[A] 111.4 Termination of approval. The *code official* is authorized to terminate such permit for a temporary ~~structure or use~~ uses, equipment or systems and to order the temporary ~~structure or use~~ same to be discontinued.

2021 International Mechanical Code

Revise as follows:

SECTION 107 TEMPORARY USES, EQUIPMENT, AND SYSTEMS ~~AND USES~~

[A] 107.1 General. The code official is authorized to issue a permit for temporary uses, equipment, and systems ~~and uses~~. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The code official is authorized to grant extensions for demonstrated cause.

[A] 107.2 Conformance. Temporary uses, equipment, and systems ~~and uses~~ shall conform to the ~~structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary~~ requirements of this code as necessary to ensure the public health, safety and general welfare.

[A] 107.3 Temporary service utilities. The code official is authorized to give permission to temporarily supply service utilities in accordance with Section 112 ~~before an installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the code.~~

[A] 107.4 Termination of approval. The code official is authorized to terminate such permit for temporary uses, equipment, or systems ~~or uses~~ and to order the temporary ~~equipment, systems or uses~~ same to be discontinued.

SECTION 112 SERVICE UTILITIES

[A] 112.1 Connection of service utilities. A person shall not make connections from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a permit is required, until authorized by the code official.

[A] 112.2 Temporary connection. The code official shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or sewer system for the purpose of testing systems or for use under a temporary approval.

[A] 112.3 Authority to disconnect service utilities. The code official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 112.1 or 112.2. The code official shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system, of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

2021 International Plumbing Code

Revise as follows:

SECTION 107 TEMPORARY USES, EQUIPMENT, AND SYSTEMS ~~AND USES~~

[A] 107.1 **General.** The code official is authorized to issue a permit for temporary uses, equipment, and systems ~~and uses~~. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The code official is authorized to grant extensions for demonstrated cause.

[A] 107.2 **Conformance.** Temporary uses, equipment, and systems ~~and uses~~ shall conform to the ~~structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary~~ requirements of this code as necessary to ensure the public health, safety and general welfare.

[A] 107.3 **Temporary service utilities.** The code official is authorized to give permission to temporarily supply service utilities in accordance with Section 112, ~~before an installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the code.~~

[A] 107.4 **Termination of approval.** The code official is authorized to terminate such permit for temporary uses, equipment, or systems ~~or uses~~ and to order the ~~temporary equipment, systems or uses~~ same to be discontinued.

SECTION 112 SERVICE UTILITIES

[A] 112.1 **Connection of service utilities.** A person shall not make connections from a utility, source of energy, fuel, power, water system or sewer system to any building or system that is regulated by this code for which a permit is required until authorized by the code official.

[A] 112.2 **Temporary connection.** The code official shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or sewer system for the purpose of testing plumbing systems or for use under a temporary approval.

[A] 112.3 **Authority to disconnect service utilities.** The code official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 112.1 or 112.2. The code official shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system, of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

2021 International Private Sewage Disposal Code

Revise as follows:

SECTION 109 TEMPORARY USES, EQUIPMENT, AND SYSTEMS ~~AND USES~~

[A] 109.1 **General.** The *code official* is authorized to issue a permit for temporary uses, equipment, or systems. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The *code official* is authorized to grant extensions for demonstrated cause.

Revise as follows:

[A] 109.2 **Conformance.** Temporary uses, equipment and systems shall conform to the ~~structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary~~ requirements of this code as necessary to ensure the health, safety and general welfare.

[A] 109.3 **Temporary utilities.** The *code official* is authorized to give permission to temporarily supply service utilities in accordance with Section 110, ~~sources of energy, fuel, power, water systems or sewer systems before an installation has been fully completed and the final approval has been issued. The part covered by the temporary approval shall comply with the requirements specified for temporary lighting, heat or power in this code.~~

[A] 109.4 **Termination of approval.** The *code official* is authorized to terminate such permit for temporary uses, equipment or system and to order the same to be discontinued.

SECTION 110 SERVICE UTILITIES

[A] 110.1 **Connection of service utilities.** No person shall make connections from a utility, source of energy, fuel or power to any building or

system that is regulated by this code for which a permit is required until authorized by the *code official*.

[A] 110.2 Temporary connection. The *code official* shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, water system or sewer system for the purpose of testing systems or for use under a temporary approval.

[A] 110.3 Authority to disconnect service utilities. The *code official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 110.1 or 110.2. The *code official* shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

2021 International Swimming Pool and Spa Code

Add new text as follows:

SECTION 106 **TEMPORARY STRUCTURES, EQUIPMENT AND SYSTEMS**

106.1 General. The code official is authorized to issue a permit for temporary structures, equipment or systems. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The code official is authorized to grant extensions for demonstrated cause.

106.2 Conformance. Temporary structures, equipment and systems shall conform to the requirements of this code as necessary to ensure health, safety and general welfare.

106.3 Temporary service utilities. The code official is authorized to give permission to temporarily supply service utilities in accordance with Section 109.

106.4 Termination of approval. The code official is authorized to terminate such permit for a temporary structures, equipment, or system and to order the same to be discontinued.

SECTION 109 **SERVICE UTILITIES**

[A] 109.1 Connection of service utilities. A person shall not make connections from a utility, source of energy, fuel, power, water system or sewer system to any building or system that is regulated by this code for which a permit is required until authorized by the *code official*.

[A] 109.2 Temporary connection. The *code official* shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or sewer system for the purpose of testing systems or for use under a temporary approval.

[A] 109.3 Authority to disconnect service utilities. The *code official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 108.2 or 108.3. The *code official* shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

2021 International Wildland-Urban Interface Code

Revise as follows:

SECTION 108 **TEMPORARY STRUCTURES AND USES, EQUIPMENT AND SYSTEMS**

[A] 108.1 General. The *code official* is authorized to issue a permit for temporary ~~structures and temporary uses~~ equipment and systems. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The *code official* is authorized to grant extensions for demonstrated cause.

[A] 108.2 Conformance. Temporary ~~structures and uses~~ equipment and systems shall conform to the ~~structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary~~ requirements of this code as necessary to ensure ~~the public~~ health, safety and general welfare.

Add new text as follows:

108.3 Temporary service utilities. The *code official* is authorized to give permission to temporarily supply service utilities in accordance with Section 112.

Revise as follows:

[A] ~~108.3~~ **108.4 Termination of approval.** The *code official* is authorized to terminate such permit for a temporary ~~structure or use~~ equipment or systems and to order the ~~temporary structure or use~~ same to be discontinued.

SECTION 112 SERVICE UTILITIES

[A] **112.1 Connection of service utilities.** A person shall not make connections from a utility, source of energy, fuel, power, water system or sewer system to any building or system that is regulated by this code for which a permit is required until authorized by the *code official*.

[A] **112.2 Temporary connection.** The *code official* shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, power, water system or sewer system for the purpose of testing systems or for use under a temporary approval.

[A] **112.3 Authority to disconnect service utilities.** The *code official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Sections 112.1 and 112.2. The *code official* shall notify the serving utility and, where possible, the owner or the owner's authorized agent and the occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnection, the owner, the owner's authorized agent or the occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

Reason: The purpose of this proposal is coordination between codes for the section on temporary structures. A version was proposed last cycle, ADM32-19. As requested by the development committee, the BCAC worked with FCAC and PMGCAC to develop this proposal.

This proposal modified the section for temporary facilities where it was already in the code. The committee felt that it was very important to add these safety options to the IFC as well, so this proposal adds this section to IFC and ISPSC. When looking for coordination, some of the codes did not include 'structure' and some did. The residential committee felt it was important to keep 'structures', so that is remaining in the proposed text.

Generally - The word use is moved to the front, and the lists are made the same throughout.

Temporary power - The allowances for temporary connection under inspection and testing address more than just utilities, so the language in this section should match. The phrase "certificate of completion" is not defined, so "approved" would be a better choice.

The section on Conformance includes a laundry list " structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary", that is not needed for the section and includes provisions that are not addressed in all of the codes (e.g. IPC does not address structural strength, means of egress, or light).

The BCAC is working from the philosophy that ICC is a family of codes, so administrative requirements should be consistent across books. Most administrative and enforcement matters are the same for any code. Those matters unique for a specific code remain unchanged. This is one of a series of proposals being submitted relating to technical, editorial and organizational changes proposed for the Administrative chapters (Chapter 1) in all of the I-Codes.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This change is only removing repeating requirements, therefore this revision is strictly editorial and will not have any changes to the construction requirements.

ADM41-22 Part II

IRC: SECTION R107, R107.1, R107.2, R107.3, R107.4, SECTION R111, R111.1, R111.2, R111.3

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, representing Chair of PMGCAC (pmgcac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

SECTION R107 TEMPORARY STRUCTURES, USES, EQUIPMENT AND USES SYSTEMS

R107.1 General. The *building official* is authorized to issue a *permit* for temporary structures, ~~and temporary uses, equipment or systems~~. Such *permits* shall be limited as to time of service, but shall not be permitted for more than 180 days. The *building official* is authorized to grant extensions for demonstrated cause.

R107.2 Conformance. Temporary structures, ~~and uses, equipment or systems~~ shall conform to the ~~structural strength, fire safety, means of egress, light, ventilation and sanitary~~ requirements of this code as necessary to ensure ~~the public health, safety and general welfare~~.

R107.3 Temporary ~~power service utilities~~. The *building official* is authorized to give permission to temporarily supply service utilities in accordance with Section R111, ~~and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in NFPA 70.~~

R107.4 Termination of approval. The *building official* is authorized to terminate such *permit* for a temporary structure s. uses, equipment or use systems and to order the ~~temporary structure or use same~~ to be discontinued.

SECTION R111 SERVICE UTILITIES

R111.1 Connection of service utilities. A *person* shall not make connections from a utility, a source of energy, fuel, or power to any building or system that is regulated by this code for which a *permit* is required, until *approved* by the *building official*.

R111.2 Temporary connection. The *building official* shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel or power.

R111.3 Authority to disconnect service utilities. The *building official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards set forth in Section R102.4 in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section R111.1 or R111.2. The *building official* shall notify the serving utility and where possible the *owner* or the owner's authorized agent and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnection, the *owner*, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

Reason: The purpose of this proposal is coordination between codes for the section on temporary structures. A version was proposed last cycle, ADM32-19. As requested by the development committee, the BCAC worked with FCAC and PMGCAC to develop this proposal.

This proposal modified the section for temporary facilities where it was already in the code. The committee felt that it was very important to add these safety options to the IFC as well, so this proposal adds this section to IFC and ISPSC. When looking for coordination, some of the codes did not include 'structure' and some did. The residential committee felt it was important to keep 'structures', so that is remaining in the proposed text.

Generally - The word use is moved to the front, and the lists are made the same throughout.

Temporary power - The allowances for temporary connection under inspection and testing address more than just utilities, so the language in this section should match. The phrase "certificate of completion" is not defined, so "approved" would be a better choice.

The section on Conformance includes a laundry list " structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary", that is not needed for the section and includes provisions that are not addressed in all of the codes (e.g. IPC does not address structural strength, means of egress, or light).

The BCAC is working from the philosophy that ICC is a family of codes, so administrative requirements should be consistent across books. Most administrative and enforcement matters are the same for any code. Those matters unique for a specific code remain unchanged. This is one of a series of proposals being submitted relating to technical, editorial and organizational changes proposed for the Administrative chapters (Chapter 1)

in all of the I-Codes.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This change is only removing repeating requirements, therefore this revision is strictly editorial and will not have any changes to the construction requirements.

ADM42-22

IPC: 109.3 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, representing Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org)

2021 International Plumbing Code

Add new text as follows:

109.3 Permit valuations. The applicant for a *permit* shall provide an estimated value of the work for which the permit is being issued at time of application. Such estimated valuations shall include the total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. Where, in the opinion of the *building official*, the valuation is underestimated, the *permit* shall be denied, unless the applicant can show detailed estimates acceptable to the *building official*. The building official shall have the authority to adjust the final valuation for permit fees.

Reason: ADM27-19 was approved last cycle for the coordination of the Fees section in IMC, IPC, IPMC, IFGC, ISPSC. This section was left out of IPC by accident. There is another proposal from BCAC that has some adjustment to this section across codes. That revised language has been incorporated into this proposal.

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC) in coordination with the ICC Building Code Action Committee (BCAC).

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an administrative section and will not change the cost of construction.

ADM43-22 Part I

IBC: [A] 109.3; IEBC: [A] 108.3; IFC: 107.3; IFGC: 109.3; IMC: [A] 109.3; ISPSC: [A] 108.3; IWUIC: [A] 109.3; IGCC: 108.3

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, representing Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

[A] 109.3 Permit valuations. The applicant for a *permit* shall provide an estimated ~~permit~~ value of the work for which the permit is being issued at time of application. ~~Permit valuations shall reflect~~ Such estimated valuations shall include the total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. ~~# Where~~, in the opinion of the *building official*, the valuation is underestimated ~~on the application~~, the *permit* shall be denied, unless the applicant can show detailed estimates ~~to meet the approval of acceptable to the building official~~. ~~Final building permit valuation shall be set by the building official~~. The building official shall have the authority to adjust the final valuation for permit fees.

2021 International Existing Building Code

Revise as follows:

[A] 108.3 Permit valuations. The applicant for a *permit* shall provide an estimated ~~permit~~ value of the work for which the permit is being issued at time of application. ~~Permit valuations shall reflect~~ Such estimated valuations shall include the total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. ~~# Where~~, in the opinion of the *code official*, the valuation is underestimated ~~on the application~~, the *permit* shall be denied unless the applicant can show detailed estimates ~~to meet the approval of acceptable to the code official~~. ~~Final building permit valuation shall be set by the code official~~. The code official shall have the authority to adjust the final valuation for permit fees.

2021 International Fire Code

Revise as follows:

107.3 Permit valuations. The applicant for a *permit* shall provide an estimated ~~permit~~ value of the work for which the permit is being issued at time of application. ~~Permit valuations shall reflect~~ Such estimated valuations shall include the total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. ~~# Where~~, in the opinion of the *fire code official*, the valuation is underestimated ~~on the application~~, the *permit* shall be denied unless the applicant can show detailed estimates ~~to meet the approval of acceptable to the fire code official~~. ~~Final permit valuation shall be set by the fire code official~~. The fire code official shall have the authority to adjust the final valuation for permit fees.

2021 International Fuel Gas Code

Revise as follows:

109.3 Permit valuations. The applicant for a *permit* shall provide an estimated ~~permit~~ value of the work for which the permit is being issued at time of application. ~~Permit valuations shall reflect~~ Such estimated valuations shall include the total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. ~~# Where~~, in the opinion of the *code official*, the valuation is underestimated ~~on the application~~, the *permit* shall be denied, unless the applicant can show detailed estimates ~~to meet the approval of acceptable to the code official~~. ~~Final building permit valuation shall be set by the code official~~. The code official shall have the authority to adjust the final valuation for permit fees.

2021 International Mechanical Code

Revise as follows:

[A] 109.3 Permit valuations . The applicant for a *permit* shall provide an estimated ~~permit~~ value of the work for which the permit is being issued at time of application. ~~Permit valuations shall reflect~~ Such estimated valuations shall include the total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. ~~# Where~~, in the opinion of the *code official*, the valuation is underestimated ~~on the application~~, the *permit* shall be denied, unless the applicant can show detailed estimates ~~to meet the approval of acceptable to the code official~~. ~~Final building permit valuation shall be set by the code official~~. The code official shall have the authority to adjust the final valuation for permit fees.

2021 International Swimming Pool and Spa Code

Revise as follows:

[A] 108.3 Permit valuations. The applicant for a *permit* shall provide an estimated ~~permit value~~ of the work for which the permit is being issued at time of application. ~~Permit valuations shall reflect~~ Such estimated valuations shall include the total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems. ~~If~~ Where, in the opinion of the *code official*, the valuation is underestimated ~~on the application~~, the permit shall be denied, unless the applicant can show detailed estimates ~~to meet the approval of~~ acceptable to the code official. ~~Final building permit valuation shall be set by the code official.~~ The code official shall have the authority to adjust the final valuation for permit fees.

2021 International Wildland-Urban Interface Code

Revise as follows:

[A] 109.3 Permit valuations. The applicant for a permit shall provide an estimated ~~permit value~~ of the work for which the permit is being issued at time of application. ~~Permit valuations shall reflect~~ Such estimated valuations shall include the total value of work, including materials and labor, for which the permit is being issued. ~~If~~ Where, in the opinion of the applicable governing authority, the valuation is underestimated ~~on the application~~, the permit shall be denied, unless the applicant can show detailed estimates ~~to meet the approval of~~ acceptable to the applicable governing authority. ~~Final building permit valuation shall be set by the applicable governing authority.~~ The applicable governing authority shall have the authority to adjust the final valuation for permit fees.

2021 International Green Construction Code

Revise as follows:

108.3 Permit valuations. The applicant for a permit shall provide an estimated ~~permit value~~ of the work for which the permit is being issued at the time of application. ~~Permit valuations shall consist of~~ Such estimated valuations shall include the total value of work, including materials and labor, for which the permit is being issued, such as electrical, gas, mechanical, and plumbing equipment and permanent systems. ~~If~~ Where, in the opinion of the building official, the valuation is underestimated ~~on the application~~, the permit shall be denied unless the applicant can show detailed estimates ~~to meet the approval of~~ acceptable to the building official. ~~Final building permit valuation shall be set by the building official.~~ The building official shall have the authority to adjust the final valuation for permit fees.

Reason: The intent of this proposal is to coordinate the provisions for fees in the I-codes. Last cycle there were two different proposals to address consistency in the Fees section (ADM 27-19 and ADM 33-19) – the end result was coordination between the 2021 codes. for – IBC, IFC, IEBC, IMC, IPC, IPMC, IFGC, ISPSC, IWUIC and IZC.

The revisions to Section 109.3 is based on some concerns raised during discussion. The change to the first and second sentence is a clarification of application. The cost of the permit is the value of the work being performed, not the value of the permit. The current last sentence could be read to say the code official can arbitrarily set the permit valuation, or it could be read to say the code official had to calculate the valuation. The proposed language allows for the code official to make adjustments if warranted.

There is another code change to add this section to IPC. ADM27-19 was approved last cycle for the coordination of the Fees section in IMC, IPC, IPMC, IFGC, IPSPC. This section was left out of IPC by accident. This revised text has been submitted to be added to the IPC Section 109.3.

The BCAC is working from the philosophy that ICC is a family of codes, so administrative requirements should be consistent across books. Most administrative and enforcement matters are the same for any code. Those matters unique for a specific code remain unchanged. This is one of a series of proposals being submitted relating to technical, editorial and organizational changes proposed for the Administrative chapters (Chapter 1) in all of the I-Codes.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>.

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International

Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This is an editorial change that provides consistency between I-codes.

ADM43-22 Part II

IRC: R108.3, R108.6, R108.4, R108.5

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, representing Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

~~**R108.3 Building permit-Permit valuations.** The applicant for a *permit* shall provide an estimated value of the work for which the permit is being issued at time of application. Such estimated ~~Building permit~~-valuations shall include the total value of work, including materials and labor, for which the *permit* is being issued, such as electrical, gas, mechanical, plumbing equipment and permanent systems, ~~including materials and labor~~. Where, in the opinion of the *building official*, the valuation is underestimated, the *permit* shall be denied, unless the applicant can show detailed estimates acceptable to the *building official*. The *building official* shall have the authority to adjust the final valuation for permit fees.~~

~~**R108.4 R108.4 Work commencing before permit issuance.** Any *person* who commences work requiring a *permit* on a building, structure, electrical, gas, mechanical or plumbing system before obtaining the necessary *permits* shall be subject to a fee established by the applicable governing authority that shall be in addition to the required *permit* fees.~~

~~**R108.4 R108.5 Related fees.** The payment of the fee for the construction, *alteration*, removal or demolition for work done in connection to or concurrently with the work authorized by a building *permit* shall not relieve the applicant or holder of the *permit* from the payment of other fees that are prescribed by law.~~

~~**R108.5 R108.6 Refunds.** The *building official* is authorized to establish a refund policy.~~

Reason: The intent of this proposal is to coordinate the provisions for fees in the I-codes. Last cycle there were two different proposals to address consistency in the Fees section (ADM 27-19 and ADM 33-19) – the end result was coordination between the 2021 codes. for – IBC, IFC, IEBC, IMC, IPC, IPMC, IFGC, ISPSC, IWUIC and IZC.

The revisions to Section 109.3 is based on some concerns raised during discussion. The change to the first and second sentence is a clarification of application. The cost of the permit is the value of the work being performed, not the value of the permit. The current last sentence could be read to say the code official can arbitrarily set the permit valuation, or it could be read to say the code official had to calculate the valuation. The proposed language allows for the code official to make adjustments if warranted.

There is another code change to add this section to IPC. ADM27-19 was approved last cycle for the coordination of the Fees section in IMC, IPC, IPMC, IFGC, IPSPC. This section was left out of IPC by accident. This revised text has been submitted to be added to the IPC Section 109.3.

The BCAC is working from the philosophy that ICC is a family of codes, so administrative requirements should be consistent across books. Most administrative and enforcement matters are the same for any code. Those matters unique for a specific code remain unchanged. This is one of a series of proposals being submitted relating to technical, editorial and organizational changes proposed for the Administrative chapters (Chapter 1) in all of the I-Codes.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>.

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This is an editorial change that provides consistency between I-codes.

ADM44-22

IFGC: SECTION 110, 110.3, SECTION 115, [A] 115.6.2; IMC: SECTION 112, [A] 112.3, SECTION 115, [A] 115.6.2; IPC: SECTION 112, [A] 112.3, SECTION 115, [A] 115.6.2; IPSPC: SECTION 110, [A] 110.3, SECTION 114, [A] 114.6.2; ISPSC: SECTION 109, [A] 109.3, SECTION 113, [A] 113.6.2

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Fuel Gas Code

SECTION 110 SERVICE UTILITIES

Revise as follows:

[A] **110.3 Authority to disconnect service utilities.** The *code official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 112.1 or 112.2. The *code official* shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system, of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

SECTION 115 VIOLATIONS

Revise as follows:

[A] **115.6.2 Authority to disconnect service utilities.** The *code official* shall have the authority to require disconnection of utility service in accordance with Section 110.3 to the building, structure or system regulated by the technical codes in case of emergency where necessary to eliminate an immediate hazard to life or property. The *code official* shall notify the serving utility and, where possible, the owner or the owner's authorized agent and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnection, the owner or occupant of the building, structure or service system shall be notified in writing, as soon as practicable thereafter.

2021 International Mechanical Code

SECTION 112 SERVICE UTILITIES

[A] **112.3 Authority to disconnect service utilities.** The code official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 112.1 or 112.2. The code official shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system, of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

SECTION 115 VIOLATIONS

Revise as follows:

[A] **115.6.2 Authority to order ~~disconnection of energy sources~~ disconnect service utilities.** The code official shall have the authority to ~~order~~ authorize disconnection of utility services in accordance with Section 112.3 ~~energy sources supplied to a building, structure or mechanical system regulated by this code, where it is determined that the mechanical system or any portion thereof has become hazardous or unsafe. Written notice of such order to disconnect service and the causes therefor shall be given within 24 hours to the owner, the owner's authorized agent and occupant of such building, structure or premises, provided, however, that in cases of immediate danger to life or property, such disconnection shall be made immediately without such notice. Where energy sources are provided by a public utility, the code official shall immediately notify the serving utility in writing of the issuance of such order to disconnect.~~

2021 International Plumbing Code

SECTION 112

SERVICE UTILITIES

[A] **112.3 Authority to disconnect service utilities.** The code official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 112.1 or 112.2. The code official shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system, of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.

SECTION 115 VIOLATIONS

Revise as follows:

[A] **115.6.2 Authority to disconnect service utilities.** The code official shall have the authority to authorize disconnection of utility service in accordance with Section 112.3 to the building, structure or system regulated by the technical codes in case of an emergency, where necessary, to eliminate an immediate danger to life or property. Where possible, the owner or the owner's authorized agent and occupant of the building, structure or service system shall be notified of the decision to disconnect utility service prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service systems shall be notified in writing, as soon as practical thereafter.

2021 International Private Sewage Disposal Code

SECTION 110 SERVICE UTILITIES

[A] **110.3 Authority to disconnect service utilities.** The *code official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 110.1 or 110.2. The *code official* shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

SECTION 114 VIOLATIONS

Revise as follows:

[A] **114.6.2 Authority to disconnect service utilities.** The *code official* shall have the authority to authorize disconnection of utility service in accordance with Section 110.3 to the building, structure or system regulated by the technical codes in case of emergency, where necessary, to eliminate an immediate danger to life or property. Where possible, the owner, the owners's authorized agent and occupant of the building, structure or service system shall be notified of the decision to disconnect utility service prior to taking such action. If not notified prior to disconnecting, the owner or occupant of the building, structure or service systems shall be notified in writing as soon as is practical thereafter.

2021 International Swimming Pool and Spa Code

SECTION 109 SERVICE UTILITIES

[A] **109.3 Authority to disconnect service utilities.** The *code official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 108.2 or 108.3. The *code official* shall notify the serving utility, and wherever possible the owner or the owner's authorized agent and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

SECTION 113 VIOLATIONS

Revise as follows:

[A] **113.6.2 Authority to disconnect service utilities.** The *code official* shall have the authority to authorize disconnection of utility service in accordance with Section 109.3 to the pool or spa regulated by the technical codes in case of an emergency, where necessary, to eliminate an

~~immediate danger to life or property. Where possible, the owner or the owner's authorized agent and occupant of the building where the pool or spa is located shall be notified of the decision to disconnect utility service prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or the occupant of the building shall be notified in writing, as soon as practical thereafter.~~

Reason: ADM 39-19 was a coordinating proposal for Service Utilities. There was an inadvertent duplication of language in the section on Violations. This proposal is intended to editorially remove the repeated sections. A reference to the same section in Service Utilities is provided instead.

This proposal is submitted by the Plumbing/Mechanical/Gas Code Action Committee (PMGCAC) working with the Building Code Action Committee (BCAC).

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. These are administration requirements, so there will be no change in construction requirements.

ADM46-22

ISPSC: SECTION 112, [A] 112.1; IPSDC: SECTION 113, 113.1; IFGC: SECTION 114 (IFGC), 114.1; IPMC: SECTION 108, [A] 108.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, representing Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org)

2021 International Swimming Pool and Spa Code

Delete without substitution:

~~SECTION 112 BOARD OF APPEALS~~

~~[A] 112.1 Membership of board.~~ The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.

2021 International Private Sewage Disposal Code

Delete without substitution:

~~SECTION 113 BOARD OF APPEALS~~

~~113.1 Membership of board.~~ The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.

2021 International Fuel Gas Code

Delete without substitution:

~~SECTION 114 (IFGC) BOARD OF APPEALS~~

~~114.1 Membership of board.~~ The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.

2021 International Property Maintenance Code

Delete without substitution:

~~SECTION 108 BOARD OF APPEALS~~

~~[A] 108.1 Membership of board.~~ The board of appeals shall consist of not less than three members who are qualified by experience and training to pass on matters pertaining to property maintenance and who are not employees of the jurisdiction. The *code official* shall be an *ex officio* member but shall not vote on any matter before the board. The board shall be appointed by the chief appointing authority, and shall serve staggered and overlapping terms.

Reason: ADM40-19 and ADM 43-19 were companion code changes. ADM 40-19 revised the sections for Means of Appeals. ADM 43-19 added an appendix for Board of Appeals that included the size and appointment of the Board of appeals to IBC, IEBC, IFC, IWUIC, IPC, IMC, IFGC, ISPSC, IPMC, IPSDC, IECC-C & R, IGCC and IRC. This text for the board size is only in these four codes. For consistency in the family of codes, and to not have a conflict with the appendix, this section should be deleted. Below is the relevant section from the appendix.

~~[A] 101.3 Membership of board.~~ The board shall consist of five voting members appointed by the chief appointing authority of the jurisdiction. Each member shall serve for [NUMBER OF YEARS] years or until a successor has been appointed. The board member's terms shall be staggered at intervals, so as to provide continuity. The code official shall be an *ex officio* member of said board but shall not vote on any matter before the board.

This proposal is submitted by the ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC) in coordination with the ICC Building Code Action Committee (BCAC).

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is removing redundant text.

ADM48-22 Part I

IBC: SECTION 113, [A] 113.1, [A] 113.2, [A] 113.3, [A] 113.4; IEBC: SECTION 112, [A] 112.1, [A] 112.2, [A] 112.3, [A] 112.4; IFC: SECTION 111, [A] 111.1, [A] 111.2, [A] 111.3, [A] 111.4; IFGC: SECTION 113, 113.1, [A] 113.2, 113.3, 113.4; IMC: SECTION 114, [A] 114.1, [A] 114.2, [A] 114.3, [A] 114.4; IPC: SECTION 114, [A] 114.1, [A] 114.2, [A] 114.3, [A] 114.4; IPMC: SECTION 107, 107.1, [A] 107.2, 107.3, 107.4; IPSDC: SECTION 112, [A] 112.1, 112.2, [A] 112.3, [A] 112.4; ISPSC: SECTION 111, [A] 111.1, [A] 111.2, [A] 111.3, [A] 111.4; IWUIC: SECTION 113, [A] 113.1, [A] 113.2, [A] 113.3, [A] 113.4; IGCC: SECTION 111, 111.1, 111.2, 111.3, 111.4

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, representing Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE ADMINISTRATIVE CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

SECTION 113 MEANS OF APPEALS

[A] 113.1 **General.** In order to hear and decide appeals of orders, decisions or determinations made by the *building official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *building official*.

Revise as follows:

[A] 113.2 **Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code.~~

[A] 113.3 **Qualifications.** The board of appeals shall consist of members who are qualified by experience and training ~~to pass on~~ matters pertaining to ~~building construction~~ provisions of this code and are not employees of the jurisdiction.

[A] 113.4 **Administration .** The *building official* shall take ~~immediate~~ action in accordance with the decision of the board.

2021 International Existing Building Code

SECTION 112 MEANS OF APPEALS

[A] 112.1 **General.** In order to hear and decide appeals of orders, decisions or determinations made by the *code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *code official*.

Revise as follows:

[A] 112.2 **Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code.~~

[A] 112.3 **Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to ~~building construction~~ the provisions of this code and are not employees of the jurisdiction.

[A] 112.4 **Administration.** The *code official* shall take ~~immediate~~ action in accordance with the decision of the board.

2021 International Fire Code

SECTION 111 MEANS OF APPEALS

Revise as follows:

[A] 111.1 ~~Board of appeals established~~ **General.** In order to hear and decide appeals of orders, decisions or determinations made by the *fire code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals

shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *fire code official*.

[A] 111.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code~~.

[A] 111.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training ~~to pass on matters pertaining to hazards of fire, explosions, hazardous conditions or fire protection systems,~~ the provisions of this code and are not employees of the jurisdiction.

[A] 111.4 Administration. The *fire code official* shall take ~~immediate~~ action in accordance with the decision of the board.

2021 International Fuel Gas Code

Revise as follows:

SECTION 113 MEANS OF APPEALS

113.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the *code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *code official*.

Revise as follows:

[A] 113.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code~~.

113.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training on matters pertaining to the provisions of this code and are not employees of the jurisdiction.

113.4 Administration. The *code official* shall take ~~immediate~~ action in accordance with the decision of the board.

2021 International Mechanical Code

SECTION 114 MEANS OF APPEALS

[A] 114.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official.

Revise as follows:

[A] 114.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have the authority to waive requirements of this code ~~or interpret the administration of this code~~.

[A] 114.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training on matters pertaining to the provisions of this code and are not employees of the jurisdiction.

[A] 114.4 Administration. The code official shall take ~~immediate~~ action in accordance with the decision of the board.

2021 International Plumbing Code

SECTION 114 MEANS OF APPEALS

[A] 114.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the code official.

Revise as follows:

[A] **114.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code.~~

[A] **114.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training on matters pertaining to the provisions of this code and are not employees of the jurisdiction.

[A] **114.4 Administration.** The code official shall take ~~immediate~~ action in accordance with the decision of the board.

2021 International Property Maintenance Code

Revise as follows:

SECTION 107 MEANS OF APPEALS

107.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the *code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *code official*.

Revise as follows:

[A] **107.2 Limitations of authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code.~~

107.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training on matters pertaining to the provisions of this code and are not employees of the jurisdiction.

107.4 Administration. The *code official* shall take ~~immediate~~ action in accordance with the decision of the board.

2021 International Private Sewage Disposal Code

Revise as follows:

SECTION 112 MEANS OF APPEALS

[A] **112.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the *code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *code official*.

Revise as follows:

112.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code.~~

[A] **112.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training on matters pertaining to the provisions of this code and are not employees of the jurisdiction.

[A] **112.4 Administration.** The *code official* shall take ~~immediate~~ action in accordance with the decision of the board.

2021 International Swimming Pool and Spa Code

Revise as follows:

SECTION 111 MEANS OF APPEALS

[A] **111.1 General.** In order to hear and decide appeals of orders, decisions or determinations made by the *code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all

decisions and findings in writing to the appellant with a duplicate copy to the *code official*.

Revise as follows:

[A] 111.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code.~~

[A] 111.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training on matters pertaining to the provisions of this code and are not employees of the jurisdiction.

[A] 111.4 Administration. The *code official* shall take ~~immediate~~ action in accordance with the decision of the board.

2021 International Wildland-Urban Interface Code

SECTION 113 MEANS OF APPEALS

[A] 113.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the code official relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant, with a duplicate copy to the code official.

Revise as follows:

[A] 113.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code.~~

[A] 113.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training on matters pertaining to the provisions of this code and are not employees of the jurisdiction.

[A] 113.4 Administration. The *code official* shall take ~~immediate~~ action in accordance with the decision of the board.

2021 International Green Construction Code

SECTION 111 MEANS OF APPEALS

111.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the authority having jurisdiction relative to the application and interpretation of this code, there shall be, and is hereby created, a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business and shall render all decisions and findings in writing to the appellant with a duplicate copy to the authority having jurisdiction.

Revise as follows:

111.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equivalent or better form of construction is proposed. The board shall not have authority to waive requirements of this code ~~or interpret the administration of this code.~~

111.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training ~~to pass~~ on matters pertaining to the provisions of this code building construction and are not employees of the jurisdiction.

111.4 Administration. The authority having jurisdiction shall take ~~immediate~~ action in accordance with the decision of the board.

Reason: ADM40-19 was approved for IBC, IEBC, IFC, IWUIC, IPC, IMC, IFGC, ISPSC, IPMC, IPSDC, IECC-R and IGCC for revisions to the section on Means of Appeals. This item was disapproved for IECC Commercial and IRC. The result is an inconsistency with IECC Commercial and IRC.

The intent of this proposal is coordination for the means of appeals within the family of codes. Most of this was accomplished through ADM40-19 during the last cycle. Comments during the testimony, from the code development committees and subsequent discussions have suggested some improvements.

General: In the IRC and IECC Residential, the sentence about the code official not being a voting member of the board of appeals is proposed to be deleted. The fact about city employees not being a voting member of the board is already included in the section on qualifications. The code official is an important advisor for the Board of Appeals. The deletion of this sentence will not change that.

Limitation on authority. The deletion of 'or interpret the administration of this code' is proposed to be deleted so that the board could consider appeals on any part of the codes.

Qualifications: The phrase for experience and training is slightly different in each code. Adding this idea to all codes would provide consistency.

Administration: The IRC code change committee felt that 'immediate' was unreasonable. With the word removed, the board, or jurisdiction can set a reasonable timeframe.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. These are administration requirements, so there will be no change in construction requirements.

ADM48-22 Part II

IRC: SECTION R112, R112.1, R112.2, R112.3, R112.4

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Joseph J. Summers, representing Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

SECTION R112 ~~BOARD MEANS OF APPEALS~~

R112.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the *building official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. ~~The *building official* shall be an ex officio member of said board but shall not have a vote on any matter before the board.~~ The board of appeals shall be appointed by the applicable governing body authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *building official*.

R112.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an ~~equally good equivalent~~ or better form of construction is proposed. The board shall not have authority to waive requirements of this code.

R112.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training ~~to pass judgment~~ on matters pertaining to ~~building construction~~ the provisions of this code and are not employees of the *jurisdiction*.

R112.4 Administration. The *building official* shall take ~~immediate~~ action in accordance with the decision of the board.

Reason: ADM40-19 was approved for IBC, IEBC, IFC, IWUIC, IPC, IMC, IFGC, ISPSC, IPMC, IPSDC, IECC-R and IGCC for revisions to the section on Means of Appeals. This item was disapproved for IECC Commercial and IRC. The result is an inconsistency with IECC Commercial and IRC.

The intent of this proposal is coordination for the means of appeals within the family of codes. Most of this was accomplished through ADM40-19 during the last cycle. Comments during the testimony, from the code development committees and subsequent discussions have suggested some improvements.

General: In the IRC and IECC Residential, the sentence about the code official not being a voting member of the board of appeals is proposed to be deleted. The fact about city employees not being a voting member of the board is already included in the section on qualifications. The code official is an important advisor for the Board of Appeals. The deletion of this sentence will not change that.

Limitation on authority. The deletion of 'or interpret the administration of this code' is proposed to be deleted so that the board could consider appeals on any part of the codes.

Qualifications: The phrase for experience and training is slightly different in each code. Adding this idea to all codes would provide consistency.

Administration: The IRC code change committee felt that 'immediate' was unreasonable. With the word removed, the board, or jurisdiction can set a reasonable timeframe.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and . ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021, the PMGCAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. These are administration requirements, so there will be no change in construction requirements.

ADM49-22

IEBC: SECTION 117, [A] 117.1; IPMC: SECTION 113, 113.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

SECTION 117 DEMOLITION

Revise as follows:

~~[A] 117.1 General. The code official shall order the owner or owner's authorized agent of any premises on which is located any structure that in the code official's judgment is so old or dilapidated, or has become so out of repair as to be dangerous, unsafe, insanitary or otherwise unfit for human habitation or occupancy, and such that it is unreasonable to repair the structure, to demolish and remove such structure; or if such structure is capable of being made safe by repairs, to repair and make safe and sanitary or to demolish and remove to the owner's or the owner's authorized agent's option; or where there has been a cessation of normal construction of any structure for a period of more than two years, to demolish and remove such structure.~~

When the code official determines any structure is so old, dilapidated or has become so out of repair and is dangerous, unsafe, insanitary and otherwise unfit for human habitation or occupancy the code official can order either of the following:

1. The code official is permitted to authorize the owner or owner's authorized agent to make the structure safe by repairs in order to make the structure safe and sanitary. Where there has been a cessation of construction repairs of any structure for a period of more than two years the structure will be ordered demolished and removed.
2. The code official is permitted to order the owner or owner's authorized agent to demolish and remove any such structure.

2021 International Property Maintenance Code

SECTION 113 DEMOLITION

Revise as follows:

~~113.1 General. The code official shall order the owner or owner's authorized agent of any premises upon which is located any structure, which in the code official's or owner's authorized agent judgment after review is so deteriorated or dilapidated or has become so out of repair as to be dangerous, unsafe, insanitary or otherwise unfit for human habitation or occupancy, and such that it is unreasonable to repair the structure, to demolish and remove such structure; or if such structure is capable of being made safe by repairs, to repair and make safe and sanitary, or to board up and hold for future repair or to demolish and remove at the owner's option; or where there has been a cessation of normal construction of any structure for a period of more than two years, the code official shall order the owner or owner's authorized agent to demolish and remove such structure, or board up until future repair. Boarding the building up for future repair shall not extend beyond one year, unless approved by the building official.~~

When the code official determines any structure is so old, dilapidated or has become so out of repair and is dangerous, unsafe, insanitary and otherwise unfit for human habitation or occupancy the code official can order either of the following:

1. The code official is permitted to authorize the owner or owner's authorized agent to make the structure safe by repairs in order to make the structure safe and sanitary. Where there has been a cessation of construction repairs of any structure for a period of more than two years the structure will be ordered demolished and removed.
2. The code official is permitted to order the owner or owner's authorized agent to demolish and remove any such structure.

Reason: This is a run on sentence. The intent is only to clarify.

This proposal was submitted by the Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is editorial.

CCCIIBC3-22

IEBC: CHAPTER 13

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

CHAPTER 13 PERFORMANCE COMPLIANCE METHODS

SECTION 1301 GENERAL

1301.1 Scope. The provisions of this chapter shall apply to the *alteration, addition and change of occupancy of existing structures*, including historic structures, as referenced in Section 301.3.3. The provisions of this chapter are intended to maintain or increase the current degree of public safety, health and general welfare in *existing buildings* while permitting, *alteration, addition and change of occupancy* without requiring full compliance with Chapters 6 through 12, except where compliance with the prescriptive method of Chapter 5 or the work area method of other provisions of this code is specifically required in this chapter.

1301.1.1 Compliance with other methods. *Alterations, additions and changes of occupancy to existing structures* shall comply with the provisions of this chapter or with one of the methods provided in Section 301.3.

Add new text as follows:

SECTION 1302 APPLICABILITY

Revise as follows:

~~1301.2~~ **1302.1 Applicability.** *Existing buildings* in which there is work involving *additions, alterations or changes of occupancy* shall be made to conform to the requirements of this chapter or the provisions of Chapters 6 through 12. The provisions of Sections ~~1301.2.1~~ 1302.1.1 through ~~1301.2.6~~ 1302.1.6 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, I-2, M, R and S. These provisions shall also apply to Group U occupancies where such occupancies are undergoing a *change of occupancy* or a partial change in occupancy with separations in accordance with Section ~~1301.2.2~~ 1302.1.2. These provisions shall not apply to buildings with occupancies in Group H, I-1, I-3 or I-4.

~~1301.2.1~~ **1302.1.1 Change in occupancy.** Where an *existing building* is changed to a new occupancy classification and this section is applicable, the provisions of this section for the new occupancy shall be used to determine compliance with this code.

~~1301.2.2~~ **1302.1.2 Partial change in occupancy.** Where a portion of the building is changed to a new occupancy classification and that portion is separated from the remainder of the building with fire barrier or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the International Building Code or Section R302 of the International Residential Code for the separate occupancies, or with *approved* compliance alternatives, the portion changed shall be made to conform to the provisions of this section. Only the portion separated shall be required to be evaluated for compliance.

Where a portion of the building is changed to a new occupancy classification and that portion is not separated from the remainder of the building with fire barriers or horizontal assemblies having a fire-resistance rating as required by Table 508.4 of the International Building Code or Section R302 of the International Residential Code for the separate occupancies, or with *approved* compliance alternatives, the provisions of this section which apply to each occupancy shall apply to the entire building. Where there are conflicting provisions, those requirements which secure the greater public safety shall apply to the entire building or structure.

~~1301.2.3~~ **1302.1.3 Additions.** *Additions to existing buildings* shall comply with the requirements of the *International Building Code* or the *International Residential Code* for new construction. The combined height and area of the *existing building* and the *new addition* shall not exceed the height and area allowed by Chapter 5 of the International Building Code. Where a fire wall that complies with Section 706 of the International Building Code is provided between the *addition* and the *existing building*, the *addition* shall be considered a separate building.

~~1301.2.4~~ **1302.1.4 Alterations.** An *existing building* or portion thereof shall not be altered in such a manner that results in the building being less safe or sanitary than such building is currently.

Exception: Where the current level of safety or sanitation is proposed to be reduced, the portion altered shall conform to the requirements of the *International Building Code*.

~~1301.2.5~~ **1302.1.5 Escalators.** Where escalators are provided in below-grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).

~~1301.2.6~~ **1302.1.6 Plumbing fixtures.** Plumbing fixtures shall be provided in accordance with Section 1009 for a change of occupancy and Section 808 for *alterations*. Plumbing fixtures for *additions* shall be in accordance with the International Plumbing Code.

Add new text as follows:

SECTION 1303 **ACCEPTANCE**

Revise as follows:

~~1301.3~~ **1303.1 Acceptance.** For *repairs, alterations, additions and changes of occupancy* to existing buildings that are evaluated in accordance with this section, compliance with this section shall be accepted by the *code official*.

~~1301.3.1~~ **1303.1.1 Hazards.** Where the *code official* determines that an *unsafe* condition exists as provided for in Section 115, such *unsafe* condition shall be abated in accordance with Section 115.

~~1301.3.2~~ **1303.1.2 Compliance with other codes.** Buildings that are evaluated in accordance with this section shall comply with the *International Fire Code* and *International Property Maintenance Code*.

[BS] ~~1301.3.3~~ **1303.1.3 Compliance with flood hazard provisions.** In *flood hazard areas*, buildings that are evaluated in accordance with this section shall comply with Section 1612 of the International Building Code, or Section R322 of the International Residential Code, as applicable, if the work covered by this section constitutes *substantial improvement*.

Add new text as follows:

SECTION 1304 **INVESTIGATION AND EVALUATION**

Revise as follows:

~~1301.4~~ **1304.1 Investigation and evaluation.** For proposed work covered by this chapter, the building owner shall cause the *existing building* to be investigated and evaluated in accordance with the provisions of Sections ~~1301.4~~ 1304 through ~~1301.9~~ 1307.

[BS] ~~1301.4.1~~ **1304.1.1 Structural analysis.** The owner shall have a structural analysis of the *existing building* made to determine adequacy of structural systems for the proposed *alteration, addition or change of occupancy*. The analysis shall demonstrate that the building with the work completed is capable of resisting the loads specified in Chapter 16 of the International Building Code.

~~1301.4.2~~ **1304.1.2 Submittal.** The results of the investigation and evaluation as required in Section ~~1301.4~~ 1304.1, along with proposed compliance alternatives, shall be submitted to the *code official*.

~~1301.4.3~~ **1304.1.3 Determination of compliance.** The *code official* shall determine whether the *existing building*, with the proposed *addition, alteration or change of occupancy*, complies with the provisions of this section in accordance with the evaluation process in Sections ~~1301.5~~ 1305 through ~~1301.9~~ 1307.

Add new text as follows:

SECTION 1305 **SCORING AND EVALUATION**

Revise as follows:

~~1301.5~~ **1305.1 Evaluation.** The evaluation shall be composed of three categories: fire safety, means of egress and general safety, as defined in Sections ~~1301.5.1~~ 1305.1.1 through ~~1301.5.3~~ 1305.1.3.

~~1301.5.1~~ **1305.1.1 Fire safety.** Included within the fire safety category are the structural fire resistance, automatic fire detection, fire alarm, automatic sprinkler system and fire suppression system features of the *facility*.

~~1301.5.2~~ **1305.1.2 Means of egress.** Included within the means of egress category are the configuration, characteristics and support features for means of egress in the *facility*.

~~1301.5.3~~ **1305.1.3 General safety.** Included within the general safety category are the fire safety parameters and the means of egress parameters.

~~1301.6~~ **1305.2 Evaluation process.** The evaluation process specified herein shall be followed in its entirety to evaluate *existing buildings* in Groups A, B, E, F, M, R, S and U. For *existing buildings* in Group I-2, the evaluation process specified herein shall be followed and applied to each and every individual smoke compartment. Table ~~1301.7~~ 1306.1 shall be utilized for tabulating the results of the evaluation. References to other sections of this code or other codes indicate that compliance with those sections is required in order to gain credit in the evaluation herein outlined. In applying this section to a building with mixed occupancies, where the separation between the mixed occupancies does not qualify for any category indicated in

Section ~~1301.6.16~~ 1305.2.16, the score for each occupancy shall be determined, and the lower score determined for each section of the evaluation process shall apply to the entire building or to each smoke compartment for Group I-2 occupancies.

Where the separation between the mixed occupancies qualifies for any category indicated in Section ~~1301.6.16~~ 1305.2.16, the score for each occupancy shall apply to each portion or smoke compartment of the building based on the occupancy of the space.

~~1301.6.1~~ 1305.2.1 **Building height and number of stories.** The value for building height and number of stories shall be the lesser value determined by the formula in Section ~~1301.6.1.1~~ 1305.2.1.1. Section 504 of the International Building Code shall be used to determine the allowable height and number of stories of the building. Subtract the actual building height from the allowable height and divide by 12¹/₂ feet (3810 mm). Enter the height value and its sign (positive or negative) in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.1~~ 1305.2.1, Building Height, for fire safety, means of egress and general safety. The maximum score for a building shall be 10.

~~1301.6.1.1~~ 1305.2.1.1 **Height formula.** The following formulas shall be used in computing the building height value.

$$\text{Height value, feet} = \frac{(AH) - (EBH)}{12.5} \times CF \quad \text{(Equation 13-1)}$$

$$\text{Height value, stories} = (AS - EBS) \times CF \quad \text{(Equation 13-2)}$$

where:

AH = Allowable height in feet (mm) from Section 504 of the International Building Code.

EBH = Existing building height in feet (mm).

AS = Allowable height in stories from Section 504 of the International Building Code.

EBS = Existing building height in stories.

CF = 1 if (AH) – (EBH) is positive.

CF = Construction-type factor shown in Table ~~1301.6.6(2)~~ 1305.2.6(2) if (AH) – (EBH) is negative.

Note: Where mixed occupancies are separated and individually evaluated as indicated in Section ~~1301.6~~ 1305.2, the values AH, AS, EBH and EBS shall be based on the height of the occupancy being evaluated.

~~1301.6.2~~ 1305.2.2 **Building area.** The value for building area shall be determined by the formula in Section ~~1301.6.2.2~~ 1305.2.2.2. Section 506 of the International Building Code and the formula in Section ~~1301.6.2.1~~ 1305.2.2.1 shall be used to determine the allowable area of the building. Enter the area value and its sign (positive or negative) in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.2~~ 1305.2.2, Building Area, for fire safety, means of egress and general safety. In determining the area value, the maximum permitted positive value for area is 50 percent of the fire safety score as listed in Table ~~1301.8~~ 1306.2, Mandatory Safety Scores. Group I-2 occupancies shall be scored zero.

~~1301.6.2.1~~ 1305.2.2.1 **Allowable area formula.** The following formula shall be used in computing allowable area:

$$A_a = A_t + (NS \times I_f) \quad \text{(Equation 13-3)}$$

where:

A_a = Allowable building area per story (square feet).

A_t = Tabular allowable area factor (NS, S1, S13R, or SM value, as applicable) in accordance with Table 506.2 of the International Building Code.

NS = Tabular allowable area factor in accordance with Table 506.2 of the International Building Code for a nonsprinklered building (regardless of whether the building is sprinklered).

I_f = Area factor increase due to frontage as calculated in accordance with Section 506.3 of the International Building Code.

~~1301.6.2.2~~ 1305.2.2.2 **Area formula.** The following formulas shall be used in computing the area value. Equation 13-4 shall be used for a single occupancy buildings and Equation 13-5 shall be used for multiple occupancy buildings. Determine the area value for each occupancy floor area on a floor-by-floor basis. For multiple occupancy, buildings with the minimum area value of the set of values obtained for the particular occupancy shall be used as the area value for that occupancy.

For single occupancy buildings:

$$\text{Area value}_i = (\text{Allowable area} - \text{Actual area})/1200 \text{ square feet} \quad \text{(Equation 13-4)}$$

For multiple occupancy buildings:

$$\text{Area value}_i = \frac{\text{Allowable area}_i}{1200 \text{ square feet}} \left[1 - \left(\frac{\text{Actual area}_i}{\text{Allowable area}_i} + \dots + \frac{\text{Actual area}_n}{\text{Allowable area}_n} \right) \right] \quad (\text{Equation 13-5})$$

where:

i = Value for an individual separated occupancy on a floor.

n = Number of separated occupancies on a floor.

~~1301.6.3~~ 1305.2.3 Compartmentation. Evaluate the compartments created by fire barriers or horizontal assemblies which comply with Sections ~~1301.6.3.2~~ 1305.2.3.2 and ~~1301.6.3.3~~ 1305.2.3.3 and which are exclusive of the wall elements considered under Sections ~~1301.6.4~~ 1305.2.4 and ~~1301.6.5~~ 1305.2.5. Conforming compartments shall be figured as the net area and do not include shafts, chases, stairways, walls or columns. Using Table ~~1301.6.3~~ 1305.2.3, determine the appropriate compartmentation value (CV) and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.3~~ 1305.2.3, Compartmentation, for fire safety, means of egress and general safety.

TABLE ~~1301.6.3~~ 1305.2.3 COMPARTMENTATION VALUES

OCCUPANCY	CATEGORIES ^a				
	a	b	c	d	e
A-1, A-3	0	6	10	14	18
A-2	0	4	10	14	18
A-4, B, E, S-2	0	5	10	15	20
F, M, R, S-1	0	4	10	16	22
I-2	0	2	8	10	14

a. For compartment sizes between categories, the compartmentation value shall be obtained by linear interpolation.

~~1301.6.3.1~~ 1305.2.3.1 **Categories.** The categories for compartment separations are:

1. Category a—Compartment size of 15,000 square feet (1394 m²) or more.
2. Category b—Maximum compartment size of 10,000 square feet (929 m²).
3. Category c—Maximum compartment size of 7,500 square feet (697 m²).
4. Category d—Maximum compartment size of 5,000 square feet (464 m²).
5. Category e—Maximum compartment size of 2,500 square feet (232 m²).

~~1301.6.3.2~~ 1305.2.3.2 **Wall construction.** A wall used to create separate compartments shall be a fire barrier conforming to Section 707 of the International Building Code with a fire-resistance rating of not less than 2 hours. Where the building is not divided into more than one compartment, the compartment size shall be taken as the total floor area on all floors. Where there is more than one compartment within a story, each compartmented area on such story shall be provided with a horizontal exit conforming to Section 1026 of the International Building Code. The fire door serving as the horizontal exit between compartments shall be so installed, fitted and gasketed that such fire door will provide a substantial barrier to the passage of smoke.

~~1301.6.3.3~~ 1305.2.3.3 **Floor/ceiling construction.** A floor/ceiling assembly used to create compartments shall conform to Section 711 of the International Building Code and shall have a fire-resistance rating of not less than 2 hours.

~~1301.6.4~~ 1305.2.4 **Tenant and dwelling unit separations.** Evaluate the fire-resistance rating of floors and walls separating tenants, including dwelling units, and not evaluated under Sections ~~1301.6.3~~ 1305.2.3 and ~~1301.6.5~~ 1305.2.5. Group I-2 occupancies shall evaluate the rating of the separations between care recipient sleeping rooms.

Under the categories and occupancies in Table ~~1301.6.4~~ 1305.2.4, determine the appropriate value and enter that value in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.4~~ 1305.2.4, Tenant and Dwelling Unit Separation, for fire safety, means of egress and general safety. The value shall be zero for single tenant buildings and buildings without dwelling units.

TABLE ~~1301.6.4~~ 1305.2.4 SEPARATION VALUES

OCCUPANCY	CATEGORIES				
	a	b	c	d	e
A-1	0	0	0	0	1
A-2	-5	-3	0	1	3
R	-4	-2	0	2	4
A-3, A-4, B, E, F, M, S-1	-4	-3	0	2	4
I-2	0	1	2	3	4
S-2	-5	-2	0	2	4

~~1301.6.4.1~~ 1305.2.4.1 **Categories.** The categories for tenant and dwelling unit separations are:

1. Category a—No fire partitions; incomplete fire partitions; no doors; doors not self-closing or automatic-closing.
2. Category b—Fire partitions or floor assemblies with less than 1-hour fire-resistance ratings or not constructed in accordance with Section 708 or 711 of the International Building Code, respectively.
3. Category c—Fire partitions with 1-hour or greater fire-resistance ratings constructed in accordance with Section 708 of the International Building Code and floor assemblies with 1-hour but less than 2-hour fire-resistance ratings constructed in accordance with Section 711 of the International Building Code or with only one tenant within the floor area.
4. Category d—Fire barriers with 1-hour but less than 2-hour fire-resistance ratings constructed in accordance with Section 707 of the International Building Code and floor assemblies with 2-hour or greater fire-resistance ratings constructed in accordance with Section 711 of the International Building Code.
5. Category e—Fire barriers and floor assemblies with 2-hour or greater fire-resistance ratings and constructed in accordance with Sections 707 and 711 of the International Building Code, respectively.

~~1301.6.5~~ 1305.2.5 **Corridor walls.** Evaluate the fire-resistance rating and degree of completeness of walls which create corridors serving the floor and that are constructed in accordance with Section 1020 of the International Building Code. This evaluation shall not include the wall elements considered under Sections ~~1301.6.3~~ 1305.2.3 and ~~1301.6.4~~ 1305.2.4. Under the categories and groups in Table ~~1301.6.5~~ 1305.2.5, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.5~~ 1305.2.5, Corridor Walls, for fire safety, means of egress and general safety.

TABLE ~~1301.6.5~~ 1305.2.5 CORRIDOR WALL VALUES

OCCUPANCY	CATEGORIES			
	a	b	c ^a	d ^a
A-1	-10	-4	0	2
A-2	-30	-12	0	2
A-3, F, M, R, S-1	-7	-3	0	2
A-4, B, E, S-2	-5	-2	0	5
I-2	-10	0	1	2

a. Corridors not providing at least one-half the exit access travel distance for all occupants on a floor shall use Category b.

~~1301.6.5.1~~ **1305.2.5.1 Categories.** The categories for corridor walls are:

1. Category a—No fire partitions; incomplete fire partitions; no doors; or doors not self-closing.
2. Category b—Less than 1-hour fire-resistance rating or not constructed in accordance with Section 708.4 of the International Building Code.
3. Category c—1-hour to less than 2-hour fire-resistance rating, with doors conforming to Section 716 of the International Building Code or corridors as permitted by Section 1020 of the International Building Code to be without a fire-resistance rating.
4. Category d—2-hour or greater fire-resistance rating, with doors conforming to Section 716 of the International Building Code.

~~1301.6.6~~ **1305.2.6 Vertical openings.** Evaluate the fire-resistance rating of interior exit stairways or ramps, hoistways, escalator openings and other shaft enclosures within the building, and openings between two or more floors. Table ~~1301.6.6(1)~~ 1305.2.6(1) contains the appropriate protection values. Multiply that value by the construction-type factor found in Table ~~1301.6.6(2)~~ 1305.2.6(2). Enter the vertical opening value and its sign (positive or negative) in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.6~~ 1305.2.6, Vertical Openings, for fire safety, means of egress and general safety. If the structure is a one-story building or if all the unenclosed vertical openings within the building conform to the requirements of Section 712 of the *International Building Code*, enter a value of 2. The maximum positive value for this requirement (VO) shall be 2.

TABLE ~~1301.6.6(1)~~ 1305.2.6(1) VERTICAL OPENING PROTECTION VALUE

PROTECTION	VALUE
None (unprotected opening)	-2 times number of floors connected
Less than 1 hour	-1 times number of floors connected
1 to less than 2 hours	1
2 hours or more	2

TABLE ~~1301.6.6(2)~~ 1305.2.6(2) CONSTRUCTION-TYPE FACTOR

FACTOR	TYPE OF CONSTRUCTION								
	IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
	1.2	1.5	2.2	3.5	2.5	3.5	2.3	3.3	7

~~1301.6.6.1~~ **1305.2.6.1 Vertical opening formula.** The following formula shall be used in computing vertical opening value.

$$VO = PV \times CF$$

(Equation 13-6)

where:

VO = Vertical opening value. The calculated value shall not be greater than positive 2.0.

PV = Protection value from Table 1301.6.6(1).

CF = Construction-type factor from Table 1301.6.6(2).

~~1301.6.7~~ **1305.2.7 HVAC systems.** Evaluate the ability of the HVAC system to resist the movement of smoke and fire beyond the point of origin. Under the categories in Section ~~1301.6.7.1~~ **1305.2.7.1**, determine the appropriate value and enter that value into Table ~~1301.7~~ **1306.1** under Safety Parameter ~~1301.6.7~~ **1305.2.7**, HVAC Systems, for fire safety, means of egress and general safety. *Facilities* in Group I-2 occupancies meeting Category a, b or c shall be considered to fail the evaluation.

~~1301.6.7.1~~ **1305.2.7.1 Categories.** The categories for HVAC systems are:

1. Category a—Plenums not in accordance with Section 602 of the International Mechanical Code. -10 points.
2. Category b—Air movement in egress elements not in accordance with Section 1020.6 of the International Building Code. -5 points.
3. Category c—Both Categories a and b are applicable. -15 points.
4. Category d—Compliance of the HVAC system with Section 1020.6 of the International Building Code and Section 602 of the International Mechanical Code. 0 points.
5. Category e—Systems serving one story; or a central boiler/chiller system without ductwork connecting two or more stories or where systems have no ductwork. +5 points.

~~1301.6.8~~ **1305.2.8 Automatic fire detection.** Evaluate the smoke detection capability based on the location and operation of automatic fire detectors in accordance with the International Mechanical Code and Section 907 of the International Building Code. Under the categories and occupancies in Table ~~1301.6.8~~ **1305.2.8**, determine the appropriate value and enter that value into Table ~~1301.7~~ **1306.1** under Safety Parameter ~~1301.6.8~~ **1305.2.8**, Automatic Fire Detection, for fire safety, means of egress and general safety. *Facilities* in Group I-2 occupancies meeting Category a, b or c shall be considered to fail the evaluation.

TABLE ~~1301.6.8~~ 1305.2.8 AUTOMATIC FIRE DETECTION VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-3, F, M, R, S-1	-10	-5	0	2	6	NA
A-2	-25	-5	0	5	9	NA
A-4, B, E, S-2	-4	-2	0	4	8	NA
I-2	NP	NP	NP	4	5	2

NA = Not Applicable.

NP = Not Permitted.

~~1301.6.8.1~~ 1305.2.8.1 **Categories.** The categories for automatic fire detection are:

1. Category a—None.
2. Category b—Existing smoke detectors in HVAC systems and maintained in accordance with the *International Fire Code*.
3. Category c—Smoke detectors in HVAC systems. The detectors are installed in accordance with the requirements for new buildings in the *International Mechanical Code*.
4. Category d—Smoke detectors throughout all floor areas other than individual sleeping units, tenant spaces and dwelling units.
5. Category e—Smoke detectors installed throughout the floor area.
6. Category f—Smoke detectors in corridors only.

~~1301.6.9~~ 1305.2.9 **Fire alarm systems.** Evaluate the capability of the fire alarm system in accordance with Section 907 of the International Building Code. Under the categories and occupancies in Table ~~1301.6.9~~ 1305.2.9, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.9~~ 1305.2.9, Fire Alarm System, for fire safety, means of egress and general safety.

TABLE ~~1301.6.9~~ 1305.2.9 FIRE ALARM SYSTEM VALUES

OCCUPANCY	CATEGORIES			
	a	b ^a	c	d
A-1, A-2, A-3, A-4, B, E, R	-10	-5	0	5
F, M, S	0	5	10	15
I-2	-4	1	2	5

a. For buildings equipped throughout with an automatic sprinkler system, add 2 points for activation by a sprinkler water-flow device.

~~1301.6.9.1~~ **1305.2.9.1 Categories.** The categories for fire alarm systems are:

1. Category a—None.
2. Category b—Fire alarm system with manual fire alarm boxes in accordance with Section 907.4 of the International Building Code and alarm notification appliances in accordance with Section 907.5.2 of the International Building Code.
3. Category c—Fire alarm system in accordance with Section 907 of the International Building Code.
4. Category d—Category c plus a required emergency voice/alarm communications system and a fire command station that conforms to Section 911 of the International Building Code and contains the emergency voice/alarm communications system controls, fire department communication system controls, and any other controls specified in Section 911 of the International Building Code where those systems are provided.

~~1301.6.10~~ **1305.2.10 Smoke control.** Evaluate the ability of a natural or mechanical venting, exhaust or pressurization system to control the movement of smoke from a fire. Under the categories and occupancies in Table ~~1301.6.10~~ 1305.2.10, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.10~~ 1305.2.10, Smoke Control, for means of egress and general safety.

TABLE ~~1301.6.10~~ 1305.2.10 SMOKE CONTROL VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-2, A-3	0	1	2	3	6	6
A-4, E	0	0	0	1	3	5
B, M, R	0	2 ^a	3 ^a	3 ^a	3 ^a	4 ^a
F, S	0	2 ^a	2 ^a	3 ^a	3 ^a	3 ^a
I-2	-4	0	0	0	3	0

a. This value shall be 0 if compliance with Category d or e in Section ~~1301.6.8.1~~ 1305.2.8.1 has not been obtained.

~~1301.6.10.1~~ 1305.2.10.1 **Categories.** The categories for smoke control are:

1. Category a—None.
2. Category b—The building is equipped throughout with an automatic sprinkler system. Openings are provided in exterior walls at the rate of 20 square feet (1.86 m²) per 50 linear feet (15 240 mm) of exterior wall in each story and distributed around the building perimeter at intervals not exceeding 50 feet (15 240 mm). Such openings shall be readily openable from the inside without a key or separate tool and shall be provided with ready access thereto. In lieu of operable openings, clearly and permanently marked tempered glass panels shall be used.
3. Category c—One enclosed exit stairway, with ready access thereto, from each occupied floor of the building. The stairway has operable exterior windows, and the building has openings in accordance with Category b.
4. Category d—One smokeproof enclosure and the building has openings in accordance with Category b.
5. Category e—The building is equipped throughout with an automatic sprinkler system. Each floor area is provided with a mechanical air-handling system designed to accomplish smoke containment. Return and exhaust air shall be moved directly to the outside without recirculation to other floor areas of the building under fire conditions. The system shall exhaust not less than six air changes per hour from the floor area. Supply air by mechanical means to the floor area is not required. Containment of smoke shall be considered as confining smoke to the floor area involved without migration to other floor areas. Any other tested and *approved* design that will adequately accomplish smoke containment is permitted.
6. Category f—Each stairway shall be one of the following: a smokeproof enclosure in accordance with Section 1023.12 of the International Building Code; pressurized in accordance with Section 909.20.5 of the International Building Code; or shall have operable exterior windows.

~~1301.6.11~~ 1305.2.11 **Means of egress capacity and number.** Evaluate the means of egress capacity and the number of exits available to the building occupants. In applying this section, the means of egress are required to conform to the following sections of the International Building Code: 1003.7, 1004, 1005, 1006, 1007, 1016.2, 1026.1, 1028.3, 1028.5, 1030.2, 1030.3, 1030.4 and 1031. The number of exits credited is the number that is available to each occupant of the area being evaluated. Existing fire escapes shall be accepted as a component in the means of egress when conforming to Section 504.

Under the categories and occupancies in Table ~~1301.6.11~~ 1305.2.11, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.11~~ 1305.2.11, Means of Egress Capacity, for means of egress and general safety.

TABLE ~~1301.6.11~~ 1305.2.11 MEANS OF EGRESS VALUES

OCCUPANCY	CATEGORIES				
	a ^a	b	c	d	e
A-1, A-2, A-3, A-4, E, I-2	-10	0	2	8	10
M	-3	0	1	2	4
B, F, S	-1	0	0	0	0
R	-3	0	0	0	0

a. The values indicated are for buildings six stories or less in height. For buildings over six stories above grade plane, add an additional -10 points.

~~1301.6.11.1~~ 1305.2.11.1 **Categories.** The categories for means-of-egress capacity and number of exits are:

1. Category a—Compliance with the minimum required means-of-egress capacity or number of exits is achieved through the use of a fire escape in accordance with Section 405.
2. Category b—Capacity of the means of egress complies with Section 1005 of the International Building Code, and the number of exits complies with the minimum number required by Section 1006 of the International Building Code.
3. Category c—Capacity of the means of egress is equal to or exceeds 125 percent of the required means-of-egress capacity, the means of egress complies with the minimum required width dimensions specified in the *International Building Code*, and the number of exits complies with the minimum number required by Section 1006 of the International Building Code.
4. Category d—The number of exits provided exceeds the number of exits required by Section 1006 of the International Building Code. Exits shall be located a distance apart from each other equal to not less than that specified in Section 1007 of the International Building Code.
5. Category e—The area being evaluated meets both Categories c and d.

~~1301.6.12~~ 1305.2.12 **Dead ends.** In spaces required to be served by more than one means of egress, evaluate the length of the exit access travel path in which the building occupants are confined to a single path of travel. Under the categories and occupancies in Table ~~1301.6.12~~ 1305.2.12, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.12~~ 1305.2.12, Dead Ends, for means of egress and general safety.

TABLE ~~1301.6.12~~ 1305.2.12 DEAD-END VALUES

OCCUPANCY	CATEGORIES ^a			
	a	b	c	d
A-1, A-3, A-4, B, F, M, R, S	-2	0	2	-4
A-2, E	-2	0	2	-4
I-2	-2	0	2	-6

a. For dead-end distances between categories, the dead-end value shall be obtained by linear interpolation.

~~1301.6.12.1~~ 1305.2.12.1 **Categories.** The categories for dead ends are:

1. Category a—Dead end of 35 feet (10 670 mm) in nonsprinklered buildings or 70 feet (21 340 mm) in sprinklered buildings.
2. Category b—Dead end of 20 feet (6096 mm); or 50 feet (15 240 mm) in Group B in accordance with Section 1020.5, Exception 2, of the International Building Code.
3. Category c—No dead ends; or ratio of length to width (l/w) is less than 2.5:1.
4. Category d—Dead ends exceeding Category a.

~~1301.6.13~~ 1305.2.13 **Maximum exit access travel distance to an exit.** Evaluate the length of exit access travel to an *approved* exit. Determine the appropriate points in accordance with the following equation and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.13~~ 1305.2.13, Maximum Exit Access Travel Distance for means of egress and general safety. The maximum allowable exit access travel distance shall be determined in accordance with Section 1017.1 of the International Building Code.

$$\text{Points} = 20 \times \frac{\text{Maximum allowable travel distance} - \text{Maximum actual travel distance}}{\text{Maximum allowable travel distance}} \quad \text{(Equation 13-7)}$$

~~1301.6.14~~ 1305.2.14 **Elevator control.** Evaluate the passenger elevator equipment and controls that are available to the fire department to reach all occupied floors. Emergency recall and in-car operation of elevators shall be provided in accordance with the *International Fire Code*. Under the categories and occupancies in Table ~~1301.6.14~~ 1305.2.14, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.14~~ 1305.2.14, Elevator Control, for fire safety, means of egress and general safety. The values shall be zero for a single-story building.

TABLE ~~1301.6.14~~ 1305.2.14 ELEVATOR CONTROL VALUES

ELEVATOR TRAVEL	CATEGORIES			
	a	b	c	d
Less than 25 feet of travel above or below the primary level of elevator access for emergency fire-fighting or rescue personnel	-2	0	0	+2
Travel of 25 feet or more above or below the primary level of elevator access for emergency fire-fighting or rescue personnel	-4	NP	0	+4

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

~~1301.6.14.1~~ 1305.2.14.1 Categories. The categories for elevator controls are:

1. Category a—No elevator.
2. Category b—Any elevator without Phase I emergency recall operation and Phase II emergency in-car operation.
3. Category c—All elevators with Phase I emergency recall operation and Phase II emergency in-car operation as required by the *International Fire Code*.
4. Category d—All meet Category c; or Category b where permitted to be without Phase I emergency recall operation and Phase II emergency in-car operation; and at least one elevator that complies with new construction requirements serves all occupied floors.

~~1301.6.15~~ 1305.2.15 Means of egress emergency lighting. Evaluate the presence of and reliability of means of egress emergency lighting. Under the categories and occupancies in Table ~~1301.6.15~~ 1305.2.15, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.15~~ 1305.2.15, Means of Egress Emergency Lighting, for means of egress and general safety.

TABLE ~~1301.6.15~~ 1305.2.15 MEANS OF EGRESS EMERGENCY LIGHTING VALUES

NUMBER OF EXITS REQUIRED BY SECTION 1006 OF THE INTERNATIONAL BUILDING CODE	CATEGORIES		
	a	b	c
Two or more exits	NP	0	4
Minimum of one exit	0	1	1

NP = Not Permitted.

~~1301.6.15.1~~ 1305.2.15.1 **Categories.** The categories for means of egress emergency lighting are:

1. Category a—Means-of-egress lighting and exit signs not provided with emergency power in accordance with Section 2702 of the International Building Code.
2. Category b—Means of egress lighting and exit signs provided with emergency power in accordance with Section 2702 of the International Building Code.
3. Category c—Emergency power provided to means of egress lighting and exit signs, which provides protection in the event of power failure to the site or building.

~~1301.6.16~~ 1305.2.16 **Mixed occupancies.** Where a building has two or more occupancies that are not in the same occupancy classification, the separation between the mixed occupancies shall be evaluated in accordance with this section. Where there is no separation between the mixed occupancies or the separation between mixed occupancies does not qualify for any of the categories indicated in Section ~~1301.6.16.1~~ 1305.2.16.1, the building shall be evaluated as indicated in Section ~~1301.6~~ 1305.2, and the value for mixed occupancies shall be zero. Under the categories and occupancies in Table ~~1301.6.16~~ 1305.2.16, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.16~~ 1305.2.16, Mixed Occupancies, for fire safety and general safety. For buildings without mixed occupancies, the value shall be zero. *Facilities* in Group I-2 occupancies meeting Category a shall be considered to fail the evaluation.

TABLE ~~1301.6.16~~ 1305.2.16 MIXED OCCUPANCY VALUES^a

OCCUPANCY	CATEGORIES		
	a	b	c
A-1, A-2, R	-10	0	10
A-3, A-4, B, E, F, M, S	-5	0	5
I-2	NP	0	5

NP = Not Permitted.

a. For fire-resistance ratings between categories, the value shall be obtained by linear interpolation.

~~1301.6.16.1~~ 1305.2.16.1 **Categories.** The categories for mixed occupancies are:

1. Category a—Occupancies separated by minimum 1-hour fire barriers or minimum 1-hour horizontal assemblies, or both.
2. Category b—Separations between occupancies in accordance with Section 508.4 of the International Building Code.
3. Category c—Separations between occupancies having a fire-resistance rating of not less than twice that required by Section 508.4 of the International Building Code.

~~1301.6.17~~ 1305.2.17 **Automatic sprinklers.** Evaluate the ability to suppress or control a fire based on the installation of an automatic sprinkler system in accordance with Section 903.3.1 of the International Building Code. "Required sprinklers" shall be based on the requirements of the International Building Code. Under the categories and occupancies in Table ~~1301.6.17~~ 1305.2.17, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.17~~ 1305.2.17, Automatic Sprinklers, for fire safety, means of egress divided by 2, and general safety. High-rise buildings defined in Chapter 2 of the *International Building Code* that undergo a *change of occupancy* to Group R shall be equipped throughout with an automatic sprinkler system in accordance with Section 403 of the International Building Code and Chapter 9 of the International Building Code. *Facilities* in Group I-2 occupancies meeting Category a, b, c or f shall be considered to fail the evaluation.

TABLE ~~1301.6.17~~ 1305.2.17 SPRINKLER SYSTEM VALUES

OCCUPANCY	CATEGORIES					
	a ^a	b ^a	c	d	e	f
A-1, A-3, F, M, R, S-1	-6	-3	0	2	4	6
A-2	-4	-2	0	1	2	4
A-4, B, E, S-2	-12	-6	0	3	6	12
I-2	NP	NP	NP	8	10	NP

NP = Not Permitted.

- a. These options cannot be taken if Category a in Section ~~1301.6.18~~ 1305.2.18 is used.

~~1301.6.17.1~~ 1305.2.17.1 **Categories.** The categories for automatic sprinkler system protection are:

1. Category a—An *approved* automatic sprinkler system is required throughout; an *approved* automatic sprinkler system is not provided.
2. Category b—An *approved* automatic sprinkler system is required in a portion of a building; an *approved* automatic sprinkler system is not provided; the sprinkler system design is not adequate for the hazard protected in accordance with Chapter 9 of the International Building Code.
3. Category c—An *approved* automatic sprinkler system is not required; none are provided.
4. Category d—An *approved* automatic sprinkler system is required in a portion of a building; an *approved* automatic sprinkler system is provided in a portion of a building in accordance with Chapter 9 of the International Building Code.
5. Category e—An *approved* automatic sprinkler system is required throughout; an *approved* automatic sprinkler system is provided throughout in accordance with Chapter 9 of the International Building Code.
6. Category f—An *approved* automatic sprinkler system is not required throughout; an *approved* automatic sprinkler system is provided throughout in accordance with Chapter 9 of the International Building Code.

~~1301.6.18~~ 1305.2.18 **Standpipes.** Evaluate the ability to initiate attack on a fire by making a supply of water readily available through the installation of standpipes in accordance with Section 905 of the International Building Code. “Required Standpipes” shall be based on the requirements of the *International Building Code*. Under the categories and occupancies in Table ~~1301.6.18~~ 1305.2.18, determine the appropriate value and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.18~~ 1305.2.18, Standpipes, for fire safety, means of egress and general safety.

TABLE ~~1301.6.18~~ 1305.2.18 STANDPIPE SYSTEM VALUES

OCCUPANCY	CATEGORIES			
	a ^a	b	c	d
A-1, A-3, F, M, R, S-1	-6	0	4	6
A-2	-4	0	2	4
A-4, B, E, S-2	-12	0	6	12
I-2	-2	0	1	2

a. This option cannot be taken if Category a or Category b in Section ~~1301.6.17~~ 1305.2.17 is used.

~~1301.6.18.1~~ 1305.2.18.1 **Standpipe categories.** The categories for standpipe systems are:

1. Category a—Standpipes are required; standpipe is not provided or the standpipe system design is not in compliance with Section 905.3 of the International Building Code.
2. Category b—Standpipes are not required; none are provided.
3. Category c—Standpipes are required; standpipes are provided in accordance with Section 905 of the International Building Code.
4. Category d—Standpipes are not required; standpipes are provided in accordance with Section 905 of the International Building Code.

~~1301.6.19~~ 1305.2.19 **Incidental uses.** Evaluate the protection of incidental uses in accordance with Section 509.4.2 of the International Building Code. Do not include those where this code requires automatic sprinkler systems throughout the building including covered and open mall buildings, high-rise buildings, public garages and unlimited area buildings. Assign the lowest score from Table ~~1301.6.19~~ 1305.2.19 for the building or floor area being evaluated and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.19~~ 1305.2.19, Incidental Uses, for fire safety, means of egress and general safety. If there are no specific occupancy areas in the building or floor area being evaluated, the value shall be zero.

TABLE ~~1301.6.19~~ 1305.2.19 INCIDENTAL USE AREA VALUES

PROTECTION REQUIRED BY TABLE 509.1 OF THE INTERNATIONAL BUILDING CODE	PROTECTION PROVIDED						
	None	1 hour	AS	AS with CRS	1 hour and AS	2 hours	2 hours and AS
2 hours and AS	-4	-3	-2	-2	-1	-2	0
2 hours, or 1 hour and AS	-3	-2	-1	-1	0	0	0
1 hour and AS	-3	-2	-1	-1	0	-1	0
1 hour	-1	0	-1	-1	0	0	0
1 hour, or AS with CRS	-1	0	-1	-1	0	0	0
AS with CRS	-1	-1	-1	-1	0	-1	0
1 hour or AS	-1	0	0	0	0	0	0

AS = Automatic Sprinkler System.

CRS = Construction capable of resisting the passage of smoke (see Section 509.4.2 of the International Building Code).

~~1301.6.20~~ 1305.2.20 Smoke compartmentation. Evaluate the smoke compartments for compliance with Section 407.5 of the International Building Code. Under the categories and occupancies in Table ~~1301.6.20~~ 1305.2.20, determine the appropriate smoke compartmentation value (SCV) and enter that value into Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.20~~ 1305.2.20, Smoke Compartmentation, for fire safety, means of egress and general safety. *Facilities* in Group I-2 occupancies meeting Category b or c shall be considered to fail the evaluation.

TABLE ~~1301.6.20~~ 1305.2.20 SMOKE COMPARTMENTATION VALUES

OCCUPANCY	CATEGORIES ^a		
	a	b	c
A, B, E, F, M, R and S	0	0	0
I-2	0	-10	NP

NP = Not Permitted.

- a. For areas between categories, the smoke compartmentation value shall be obtained by linear interpolation.

~~1301.6.20.1~~ 1305.2.20.1 **Categories.** Categories for smoke compartment size are:

1. Category a—Smoke compartment complies with Section 407.5 of the *International Building Code*.
2. Category b—Smoke compartment are provided but do not comply with Section 407.5 of the *International Building Code*.
3. Category c—Smoke compartments are not provided.

~~1301.6.21~~ 1305.2.21 **Care recipient ability, concentration, smoke compartment location and ratio to attendant.** In I-2 occupancies, the ability of care recipients, their concentration and ratio to attendants shall be evaluated and applied in accordance with this section. Evaluate each smoke compartment using the categories in Sections ~~1301.6.21.1~~ 1305.2.21.1, ~~1301.6.21.2~~ 1305.2.21.2 and ~~1301.6.21.3~~ 1305.2.21.3 and enter the value in Table ~~1301.7~~ 1306.1. To determine the safety factor, multiply the three values together; if the product is less than 6, compliance has failed.

~~1301.6.21.1~~ 1305.2.21.1 **Care recipient ability for self-preservation.** Evaluate the ability of the care recipients for self-preservation in each smoke compartment in an emergency. Under the categories and occupancies in Table ~~1301.6.21.1~~ 1305.2.21.1, determine the appropriate value and enter that value in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.21.1~~ 1305.2.21.1, Care Recipient Ability for Self-preservation, for means of egress and general safety.

TABLE ~~1301.6.21.1~~ 1305.2.21.1 CARE RECIPIENT ABILITY VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	3	2	1

~~1301.6.21.1~~ 1305.2.21.1.1 **Categories.** The categories for care recipient ability for self-preservation are:

1. Category a—(mobile) Care recipients are capable of self-preservation without assistance.
2. Category b—(not mobile) Care recipients rely on assistance for evacuation or relocation.
3. Category c—(not movable) Care recipients cannot be evacuated or relocated.

~~1301.6.21.2~~ 1305.2.21.2 **Care recipient concentration.** Evaluate the concentration of care recipients in each smoke compartment under Section ~~1301.6.21.2~~ 1305.2.21.2. Under the categories and occupancies in Table ~~1301.6.21.2~~ 1305.21.2 determine the appropriate value and enter that value in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.21.2~~ 1305.2.21.2, Care Recipient Concentration, for means of egress and general safety.

TABLE ~~1301.6.21.2~~ 1305.2.21.2 CARE RECIPIENT CONCENTRATION VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	3	2	1

~~1301.6.21.2.1~~ 1305.2.21.2.1 **Categories:**. The categories for care recipient concentration are:

1. Category a—smoke compartment has 1 to 10 care recipients.
2. Category b—smoke compartment has more than 10 to 40 care recipients.
3. Category c—smoke compartment has more than 40 care recipients.

~~1301.6.21.3~~ 1305.2.21.3 **Attendant-to-care recipients ratio.** Evaluate the attendant-to-care recipients ratio for each compartment under Section ~~1301.6.21.3~~ 1305.2.21.3. Under the categories and occupancies in Table ~~1301.6.21.3~~ 1305.2.21.3 determine the appropriate value and enter that value in Table ~~1301.7~~ 1306.1 under Safety Parameter ~~1301.6.21.3~~ 1305.2.21.3, Attendant-to-Care Recipients Ratio, for means of egress and general safety.

TABLE ~~1301.6.21.3~~ 1305.2.21.3 ATTENDANT-TO-CARE RECIPIENTS RATIO VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
1-2	3	2	1

~~1301.6.21.3.1~~ 1305.2.21.3.1 **Categories.** The categories for attendant-to-care recipient concentrations are:

1. Category a—attendant-to-care recipients concentration is 1:5 or no care recipients.
2. Category b—attendant-to-care recipients concentration is 1:6 to 1:10.
3. Category c—attendant-to-care recipients concentration is greater than 1:10.

Add new text as follows:

SECTION 1306
BUILDING SCORE

Revise as follows:

~~1301.7~~ 1306.1 **Building score.** After determining the appropriate data from Section ~~1301.6~~ 1305.2, enter those data in Table ~~1301.7~~ 1306.1 and total the building score.

TABLE 1301.7 1306.1 SUMMARY SHEET—BUILDING CODE

Year building was constructed: _____		Number of stories: _____ Height in feet: _____	
Type of construction: _____		Area per floor: _____	
Percentage of open perimeter increase: _____ %			
Completely suppressed:	Yes _____ No _____	Corridor wall rating: _____	
		Type: _____	
Compartmentation:	Yes _____ No _____	Required door closers:	Yes _____ No _____
Fire-resistance rating of vertical opening enclosures: _____			
Type of HVAC system: _____, serving number of floors: _____			
Automatic fire detection:	Yes _____ No _____	Type and location: _____	
Fire alarm system:	Yes _____ No _____	Type: _____	
Smoke control:	Yes _____ No _____	Type: _____	
Adequate exit routes:	Yes _____ No _____	Dead ends: _____	Yes _____ No _____
Maximum exit access travel distance: _____		Elevator controls:	Yes _____ No _____
Means of egress emergency lighting:	Yes _____ No _____	Mixed occupancies:	Yes _____ No _____
Standpipes:	Yes _____ No _____	Care recipients ability for self-preservation: _____	
Incidental use:	Yes _____ No _____	Care recipients concentration: _____	
Smoke compartmentation less than 22,500 sq. feet (2092 m ²):	Yes _____ No _____	Attendant-to-care recipients ratio: _____	
SAFETY PARAMETERS		FIRE SAFETY (FS)	MEANS OF EGRESS (ME)
1301.6.1 <u>1305.2.1</u> Building height			
1301.6.2 <u>1305.2.2</u> Building area			
1301.6.3 <u>1305.2.3</u> Compartmentation			
1301.6.4 <u>1305.2.4</u> Tenant and dwelling unit separations			
1301.6.5 <u>1305.2.5</u> Corridor walls			
1301.6.6 <u>1305.2.6</u> Vertical openings			
1301.6.7 <u>1305.2.7</u> HVAC systems			
1301.6.8 <u>1305.2.8</u> Automatic fire detection			
1301.6.9 <u>1305.2.9</u> Fire alarm system			
1301.6.10 <u>1305.2.10</u> Smoke control		* * * *	
1301.6.11 <u>1305.2.11</u> Means of egress		* * * *	
1301.6.12 <u>1305.2.12</u> Dead ends		* * * *	
1301.6.13 <u>1305.2.13</u> Maximum exit access travel distance		* * * *	
1301.6.14 <u>1305.2.14</u> Elevator control			
1301.6.15 <u>1305.2.15</u> Means of egress emergency lighting		* * * *	
1301.6.16 <u>1305.2.16</u> Mixed occupancies			* * * *
1301.6.17 <u>1305.2.17</u> Automatic sprinklers			÷ 2 =
1301.6.18 <u>1305.2.18</u> Standpipes			

1301.6.19 <u>1305.2.19</u> Incidental use			
1301.6.20 <u>1305.2.20</u> Smoke compartmentation			
1301.6.21.1 <u>1305.2.21.1</u> Care recipients ability for self-preservation ^a	***		
1301.6.21.2 <u>1305.2.21.2</u> Care recipients concentration ^a	***		
1301.6.21.3 <u>1305.2.21.3</u> Attendant-to-care recipients ratio ^a	***		
Building score–total value			

***No applicable value to be inserted.

a. Only applicable to Group I-2 occupancies.

~~1301.8~~ **1306.2 Safety scores.** The values in Table ~~1301.8~~ 1306.2 are the required mandatory safety scores for the evaluation process listed in Section ~~1301.6~~ 1305.2.

TABLE ~~1301.8~~ 1306.2 MANDATORY SAFETY SCORES^a

OCCUPANCY	FIRE SAFETY(MFS)	MEANS OF EGRESS (MME)	GENERAL SAFETY (MGS)
A-1	20	31	31
A-2	21	32	32
A-3	22	33	33
A-4, E	29	40	40
B	30	40	40
F	24	34	34
I-2	19	34	34
M	23	40	40
R	21	38	38
S-1	19	29	29
S-2	29	39	39

a. MFS = Mandatory Fire Safety.

MME = Mandatory Means of Egress.

MGS = Mandatory General Safety.

Add new text as follows:

SECTION 1307
EVALUATION OF BUILDING SAFETY

Revise as follows:

~~1301.9~~ **1307.1 Evaluation of building safety.** The mandatory safety score in Table ~~1301.8~~ 1306.2 shall be subtracted from the building score in Table ~~1301.7~~ 1306.1 for each category in accordance with the evaluation formulas in Table ~~1301.9~~ 1307.1. Where the final score for any category equals zero or more, the building is in compliance with the requirements of this section for that category. Where the final score for any category is less than zero, the building is not in compliance with the requirements of this section.

TABLE ~~1301.9~~ 1307.1 EVALUATION FORMULAS^a

FORMULA	TABLE 1301.7 <u>1306.1</u>	TABLE 1301.8 <u>1306.2</u>		SCORE	PASS	FAIL
FS – MFS ≥ 0	_____(FS) –	_____(MFS)	=	_____	_____	_____
ME – MME ≥ 0	_____(ME) –	_____(MME)	=	_____	_____	_____
GS – MGS ≥ 0	_____(GS) –	_____(MGS)	=	_____	_____	_____

a. FS = Fire Safety.

ME = Means of Egress.

GS = General Safety.

MFS = Mandatory Fire Safety.

MME = Mandatory Means of Egress.

MGS = Mandatory General Safety.

~~1301.9.1~~ 1307.1.1 Mixed occupancies. For mixed occupancies, the following provisions shall apply:

1. Where the separation between mixed occupancies does not qualify for any category indicated in Section ~~1301.6.16~~ 1305.2.16, the mandatory safety scores for the occupancy with the lowest general safety score in Table ~~1301.8~~ 1306.2 shall be utilized (see Section ~~1301.6~~ 1305.2).
2. Where the separation between mixed occupancies qualifies for any category indicated in Section ~~1301.6.16~~ 1305.2.16, the mandatory safety scores for each occupancy shall be placed against the evaluation scores for the appropriate occupancy. An evaluation is not required for areas of the building with separated occupancies in accordance with Table 508.4 of the *International Building Code* in which there are no *alterations or change of occupancy*.

Reason: This is a reformatting of section numbers so that everything is not under one section.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal merely renumbers Chapter 13 so that all sections do not fall under Section 1301. This is meant to make the provisions easier to navigate. Therefore, because this is proposal is simply renumbering the chapter there is no increase in construction or compliance costs.

EB9-22

IEBC: 302.6 (New)

Proponents: David Bonowitz, representing FEMA-ATC Seismic Code Support Committee (dbonowitz@att.net); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-STRUCTURAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Existing Building Code

Add new text as follows:

302.6 Risk category. Where needed to determine the appropriate application of this code, the risk category of an existing building shall be determined in accordance with Section 1604.5 of the *International Building Code*.

Reason: This proposal adds a clarification regarding risk category assignment that parallels the current code's provision in Sec 302.5 regarding use and occupancy. It adds a reference, in new Sec 302.6, to IBC 1604.5 (and 1604.5.1 as a subsection).

Cost Impact: The code change proposal will not increase or decrease the cost of construction. The proposal merely makes explicit what is already believed to be the common practice, parallel to a similar provision regarding occupancy.

EB10-22

IEBC: 302.6 (New), 302.6.1 (New), 302.6.2 (New)

Proponents: David Bonowitz, representing Self (dbonowitz@att.net)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-STRUCTURAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Existing Building Code

Add new text as follows:

302.6 Risk category. Where needed to determine the appropriate application of this code, the risk category of an existing building shall be determined in accordance with Section 1604.5 of the *International Building Code* and Sections 302.6.1 and 302.6.2.

302.6.1 Risk category for project areas. For any portion of an existing building affected by work within the scope of this code, the risk category shall be determined based on the intended use of the affected portion, not based on the existing building's current *risk category*.

302.6.2 Current risk category. For portions of existing buildings not covered by Section 302.6.1, the *risk category* shall be taken as the *risk category* of the original building or of the most recent permitted change of *risk category*. Where the building was assigned to an occupancy category or assigned an importance factor for environmental loads based on use or occupancy, the current *risk category* shall be taken as the nearest equivalent to the assigned category or factor. Otherwise, the current *risk category* shall be taken as Risk Category II.

Reason: This proposal clarifies how existing buildings are assigned to risk categories, in two steps.

- First, new Section 302.6 adds a simple pointer to IBC Section 1604.5. This parallels current Section 302.5 regarding use and occupancy. This part of the proposal is straightforward.
- Second, the proposal recognizes the complexities of choosing risk categories for existing buildings that might pre-date the very concept of risk categories (or occupancy categories, as they were once called).

Thinking this through, it becomes clear that the area affected by an intended existing building project might properly be assigned to a different risk category than the rest of the existing building. Therefore, proposed sections 302.6.1 and 302.6.2 provide guidance for each part of the building. IBC Section 1604.5.1 (referenced from proposed Section 302.6 as part of IBC Section 1604.5) can then be used to reconcile the differences and determine an overall risk category for the building and the project.

This is important because while IEBC Sections 506.1 and Chapter 10 already require any area with a change of use to meet basic requirements for the new use, structural work is not triggered unless the risk category changes (see Sections 506.5, 1006.2, and 1006.3). And whether the risk category changes depends on how the current risk category of the existing building – which might have serious structural deficiencies – is determined.

Proposed Section 302.6.1 covers areas affected by the proposed project – an alteration, addition, repair, or change of use. From the general principle that new work in existing buildings should itself comply with provisions for new construction (Sections 302.4, 306.6, 503.1, etc.) it is clear that the area affected by any proposed project should be assigned to the risk category appropriate to the intended use of that area, as if the intended work were new construction. (Note that the term *work area* is not used, because *work area* is defined only in terms of reconfigured spaces, so existing building projects that affect only vertical components or distributed systems, while substantial, might have no clear *work area*.)

Proposed Section 302.6.2 covers the rest of the existing building. Assigning an existing building to a risk category seems like it should be easy, but it can get complicated. The proposed section applies the following logic:

- If the building is young enough to have been assigned a risk category (RC) similar to those in the current IBC, it should keep that RC unless there was a defined change of occupancy that also involved a change of RC. That is, the original RC stays with the building even if the code changes over time. This is similar to the allowance in IEBC 101.4.2 regarding legal occupancy. The point is that a building does not immediately become non-compliant just because the code evolves, since that is something over which the owner has no control.
- If the building is too old for “risk category” but was assigned an “occupancy category,” the appropriate RC is just the corresponding category, even if the older OC rules do not quite match the current RC rules. Similarly, even before legacy codes used occupancy categories, the UBC, for example, assigned importance factors to wind and seismic loads. The point here is that RC should be understood as just a different term for the same idea, so the grandfathering of an original RC should apply to an original OC or *I* factor as well.
- Finally, if the building was never assigned a clear RC or Importance factor – typically because it pre-dates those ideas, which came into the legacy codes in the 1970s – then even if it contains uses that would be assigned to RC III or RC IV today, it was built under the same rules as any other building at the time. That is, **a hospital, school, or fire station from the 1950s was structurally designed with the same provisions as a 1950s office building or shopping center**. Therefore, for purposes of implementing the current IEBC, all those 1950s buildings should be assessed by the same terms now, so “where needed” (as proposed Section 302.6 says), such an un-assigned building should be assigned to RC II despite its current use.

To understand this, consider the intent of the current IEBC when a RC III or RC IV use is added, extended, or enhanced by an addition, alteration, or change of occupancy.

- If a RC III use is added to, created within, or altered within an existing RC III building, should the existing structure be subject to structural improvement just because of the use? No, because the risk category has not changed.
- If a RC III use is added to, created within, or altered within an existing RC II building, should the existing structure be subject to structural improvement just because of the use? Yes, as current Sections 506.5 and 1006 already require.
- If a RC III use is added to, created within, or altered within an existing building that functions as a RC III facility *but is just as deficient as a RC II building of the same age*, should the existing structure be subject to structural improvement just because of the use? Yes, for the same reason that an actual RC II building would be. But under the current code, there would be no retrofit. Therefore, proposed Section 302.6.2 assigns the existing building to RC II, and the triggers in Sections 506.5 and 1006 might apply.

Proposed Section 302.6.2 thus prevents the ill-advised use of a deficient structure for RC III or RC IV purposes where higher performance is expected and must be provided. This is consistent with other provisions already codified in the IEBC for specific cases. The idea of not extending an existing deficiency to affect new work is consistent with current IEBC Section 1101.2 (which applies only to additions, and only within the Work Area method). It is also similar to current Section 304.3.1, which requires the assumption of “ordinary” systems where there is no evidence (typically due to a building’s age) of more modern (“intermediate” or “special”) detailing.

Cost Impact: The code change proposal will increase the cost of construction

This proposal SHOULD neither increase nor decrease the cost of construction, assuming that code officials and designers are already addressing this lack of guidance in the current IEBC with the rational rules provided here. However, to the extent that people are currently taking advantage of this loophole to expand RC III or RC IV uses in buildings that are deficient but nominally assigned to those same RC’s, it will increase the cost of certain projects.

EB12-22

IEBC: SECTION 202 (New), SECTION 303, 303.1, 303.1.1 (New), 303.2 (New), 303.2.1 (New), 303.2.2 (New), 303.2, 303.2.1, 303.2.2

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Marc Levitan, representing ICC 500 Storm Shelter Standard Development Committee (icc500@iccsafe.org)

2021 International Existing Building Code

Add new definition as follows:

STORM SHELTER. A building, structure or portions thereof, constructed in accordance with ICC 500, designated for use during hurricanes, tornadoes or other severe windstorms.

SECTION 303 STORM SHELTERS

Revise as follows:

303.1 Storm shelters General. This section applies to the design and construction of storm shelters ~~constructed as rooms or spaces within existing buildings for the purpose of providing protection during storms that produce high winds, such as tornados, and hurricanes and other severe windstorms. Section 303.2 provides requirements for the evaluation, maintenance and repair of existing storm shelters. Section 303.3 specifies where storm shelters are required for additions to existing buildings. Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado shelters. Such structures shall be constructed in accordance with this code and ICC 500.~~

Add new text as follows:

303.1.1 Construction. Storm shelters shall be constructed in accordance with Section 423 of the International Building Code and ICC 500 and shall be designated as hurricane shelters, tornado shelters, or combined hurricane and tornado shelters.

Exception: Storm shelters added to critical emergency operations facilities or Group E occupancies are not required to comply with the travel distance in Section 423.4.2 or 423.5.2 of the International Building Code.

303.2 Evaluation, maintenance and repairs. Community storm shelters shall be evaluated, maintained and repaired in accordance with this section and ICC 500.

303.2.1 Evaluation. Community storm shelters shall be evaluated annually, and when requested by the authority having jurisdiction, in accordance with ICC 500.

303.2.2 Maintenance and Repairs. Community storm shelters shall be maintained in an operable condition. All structural and operational element shall be repaired or replaced in accordance with ICC 500 where damaged or found to be inoperable.

Revise as follows:

303.3 303.2 Addition to a Group E occupancy. Where an *addition* is added to an existing Group E occupancy located in an area where the shelter design wind speed for tornados is 250 mph (402.3 km/h) in accordance with Figure 304.2(1) of ICC 500 and the occupant load in the *addition* is 50 or more, the *addition* shall have a storm shelter constructed in accordance with ICC 500.

Exceptions:

1. Group E day care *facilities*.
2. Group E occupancies accessory to places of religious worship.
3. *Additions* meeting the requirements for shelter design in ICC 500.

303.3.1 303.2.1 Required Design occupant capacity. The required design occupant capacity of the storm shelter shall include all buildings on the site, and shall be the total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy.

Exceptions:

1. Where an addition is being added on an existing Group E site, and where the addition is not of sufficient size to accommodate the required design occupant capacity of the storm shelter for all of the buildings on-site, the storm shelter shall at a minimum accommodate the required capacity for the addition.
2. Where approved by the code official, the required design occupant capacity of the shelter shall be permitted to be reduced by the design occupant capacity of any existing storm shelters on the site.

303.4 303.2.2 Occupancy classification. The occupancy classification for storm shelters shall be determined in accordance with Section 423.3 of the *International Building Code*.

Reason: The intent of this proposal is to coordinate with the changes to the storm shelter requirements in IBC (G94-21 AS, G95-21 AM, G96-21 AM and G97-21 AM) and the latest edition of the storm shelter standard (ICC 500). Section 303.1 – The first sentence in the charging paragraph is proposed to match the phrase for the types of storms used in the ICC 500. The 2nd and 3rd sentences are the pointers for the sections on maintenance and additions. The deleted sentence is moved to a new section 303.1.1 for clarity and to allow for the exception for travel distance (added to shelters for critical emergency operations facilities by G95-21 AM, and in the current text for Educational facilities). In an existing site, the storm shelter may be part of a new building on the site and could not always meet the maximum exterior travel distances. It is important to get the shelter, and the extra travel time involved can be addressed in the operations plans.

Section 303.2 – The 2020 edition of ICC 500, which was incorporated by reference in the 2021 I-Codes, contains new provisions for the evaluation, maintenance, and repair of community storm shelters. The storm shelter owner or their authorized agent is required to have the shelter evaluated annually, and when requested by the authority having jurisdiction, to identify whether shelter envelope walls or roofs are damaged or whether any impact-protective systems (including doors, windows and shutters) are damaged or are not operational. Any shelter envelope wall, roof or impact-protective system found to be damaged or not operational is required to be repaired or replaced in accordance with Section 113 of ICC 500-2020. The ICC 500 provisions read as follows:

SECTION 113 EVALUATION, MAINTENANCE AND REPAIRS

113.1 General. Community shelters shall be evaluated and maintained in accordance with Sections 113.2 through 113.4.

113.2 Evaluation. The owner or owner's authorized agent shall evaluate the storm shelter annually and when requested by the authority having jurisdiction. The evaluation of the storm shelter shall include the following:

1. The storm shelter envelope shall be evaluated through visual observation to assess whether the walls and roofs are intact and undamaged.
2. Impact-protective systems shall be evaluated for compliance with the manufacturer's operational and maintenance requirements. 113.3 Maintenance and repairs. Storm shelters shall be maintained in an operable condition at all times. All structural and operational elements shall be repaired or replaced where damaged or found to be inoperable.

113.3.1 Damaged or missing components. Storm shelters shall be maintained so that walls and roofs are intact and undamaged. Any damage to the storm shelter or its impact-protective systems that impair its functionality shall be repaired or replaced. Damaged or missing components shall be replaced with components that are specified within the tested or listed assembly.

113.3.2 Replacement assemblies and systems. Where it is necessary to replace certified or listed impact-protective systems, replacements shall comply with applicable ICC 500 requirements and shall be tested and installed as required by this standard for new installations or construction.

113.4 Recordkeeping. A record of the evaluations shall be maintained by the owner or owner's authorized agent. A record of the evaluations and any other tests, repairs or replacements and other operations and maintenance shall be kept on the premises or other approved location and consist of all changes to the original storm shelter envelope or impact-protective systems. Records shall include the date and person conducting the evaluations and maintenance or repairs. The proposed IEBC storm shelter provisions trigger evaluations of community storm shelters to verify that they can continue protecting occupants from extreme wind events. Door assemblies in multi-use storm shelters are especially vulnerable to disrepair when used frequently for their 'normal use' functions (e.g., gym, classroom, auditorium). Observations of existing storm shelter door assemblies have revealed the following common maintenance issues that can result in operational failure during an extreme wind event: debris in floor latch points preventing full connection, rust, and malfunctioning hardware. The new ICC 500 provision is specific to community storm shelters. Residential storm shelters are excluded so as not to burden homeowners who choose to incorporate a small residential storm shelter into their home or provide one in their yard.

Section 303.3 – Adding 'design' matches the terms used in the 2020 ICC 500 and the approved changes to 2024 IBC(G94-21 AM) and 2024 IPMC (PM11-20).

This proposal is submitted by the ICC Building Code Action Committee (BCAC) and the ICC 500 Committee, Standard for the Design and Construction of Storm Shelters.

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The ICC 500 (Standard for the Design and Construction of Storm Shelters) development committee has held several virtual meetings during the to develop the 2020 edition. In addition, there were numerous virtual Working Group meetings. All meetings included members of the committee as well as interested parties. The committee has now moved to continuous maintenance. Related documents and reports are posted on the ICC 500

website at <https://www.iccsafe.org/products-and-services/standards-development/is-stm/> .

Cost Impact: The code change proposal will increase the cost of construction

The cost increase would be for the time and labor of the owner (or their agent) to conduct the annual visual inspection and/or hire an engineer or architect if needed for a more detailed evaluation. There would also be a cost to repair a damaged roof or wall or to replace a damaged component for an impact-protective system or the entire system if deemed necessary, but this is essential to the continued safe use of the shelter.

EB14-22

IEBC: 304.1 (New)

Proponents: Michael Fillion, representing National Council of Structural Engineers Associations (mrf.structure@verizon.net)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-STRUCTURAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Existing Building Code

Add new text as follows:

304.1 General. Structural design loads, evaluation, and design procedures shall be in accordance with Chapter 16 of the International Building Code except as otherwise required or permitted by this code.

Reason: The IEBC defines a number of structural loads, including live loads, snow loads, wind loads, and earthquake loads, typically with reference to IBC Chapter 16, and modifies them as deemed appropriate. Several other structural loads are not defined, including dead loads, soil loads and hydrostatic pressure, rain loads, atmospheric ice loads, etc. As these loads are not explicitly referenced, it is not clear if the existing structures should be evaluated for these loads, and which design loads, and evaluation and design procedures should be used.

Revisions made by this proposal intend to clarify that structural design loads, evaluation procedures, and design procedures of the IBC apply by default, except as explicitly modified by the IEBC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The intent of this code change proposal is for clarification. As it does not change the intent of the code, it will not increase or decrease the cost of construction.

EB21-22

IEBC: 306.5

Proponents: David Renn, PE, SE, City and County of Denver, representing Code Change Committee of Colorado Chapter of ICC (david.renn@denvergov.org)

2021 International Existing Building Code

Revise as follows:

306.5 Change of occupancy. ~~Where an existing~~Existing buildings that undergo ~~undergoes a change of occupancy~~change of group or occupancy that includes ~~alterations~~, such ~~alterations~~ shall comply with Section 306.7.

Exception: ~~Type B dwelling or sleeping units required by Section 1108 of the International Building Code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.~~

Reason: The current language of this section requires buildings with a change of occupancy to comply with Section 306.7, which only includes requirements for alterations. A change of occupancy, by definition, is not an alteration, so it is unclear what is intended by this section. A change of occupancy cannot comply with an alteration requirement unless there is also an alteration associated with the change of occupancy. Essentially, this section is moot as currently written since compliance with 306.7 is only applicable to alterations associated with the change of occupancy and is not applicable to the change of occupancy itself. Furthermore, alterations associated with a change of occupancy would have to comply with 306.7 whether there is a change of occupancy or not.

This proposal makes it clear that only alterations must comply with 306.7, not the change of occupancy. This is needed since some read the current language to imply that a change of occupancy should be treated as an alteration with an associated work area, which is incorrect and doesn't match the definition of work area that only includes reconfigured spaces. The exception to this section is proposed to be deleted since it only applies to a change of occupancy in conjunction with an alteration, and this is already covered by the alteration requirements in Section 306.7.4.

Please support this proposal to bring clarify to accessibility requirements (or lack thereof) for a change of occupancy.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal will not change the cost of construction as it is simply a clarification of the accessibility requirements (or lack thereof) for a change of occupancy.

EB23-22

IEBC: 306.6, 306.7, 306.7.3, 306.7.4, 306.7.10, 306.7.10.1, 306.7.10.2, 306.7.10.3

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

Revise as follows:

306.6 Additions. Where additions contain dwelling and sleeping units, the accessibility requirements shall apply only to the quantity of the dwelling or sleeping units in the addition. Provisions for new construction shall apply to *additions*. An *addition* that affects the accessibility to, or contains an area of, a *primary function* shall comply with the requirements in Section 306.7.1.

306.7 Alterations. A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of the International Building Code, ICC A117.1 and the provisions of Sections 306.7.1 through 306.7.16, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible.

1. The altered element or space is not required to be on an accessible route, unless required by Section .
2. Accessible means of egress required by Chapter 10 of the International Building Code are not required to be provided in existing *facilities*.
3. The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.
4. Type B dwelling or sleeping units required by Section 1107 of the International Building Code are not required to be provided in *existing buildings* and *facilities* undergoing *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

306.7.3 Alteration of Type A units. The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a Type B dwelling unit.

306.7.4 Type B units. Type B dwelling or sleeping units required by Section 1108 of the International Building Code are not required to be provided in *existing buildings* and *facilities* undergoing *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

Revise as follows:

306.7.10 Determination of number of units. Where Chapter 11 of the *International Building Code* requires Accessible, Type A or Type B units and where such units are being altered or added within an existing building, the number of Accessible, Type A and Type B units shall be determined in accordance with Sections 306.7.10.1 through 306.7.10.3.

306.7.10.1 Accessible dwelling or sleeping units. Where Group I-1, I-2, I-3, R-1, R-2 or R-4 dwelling or sleeping units are being altered or added within an existing building, the requirements of Section 1108 of the International Building Code for Accessible units apply only to the quantity of ~~spaces~~ dwelling or sleeping units being altered or added.

306.7.10.2 Type A dwelling or sleeping units. Where more than 20 Group R-2 dwelling or sleeping units are being altered or added within an existing building within an existing building, the requirements of Section 1108 of the International Building Code for Type A units apply only to the quantity of the ~~spaces~~ dwelling or sleeping units being altered or added.

306.7.10.3 Type B dwelling or sleeping units. ~~Where four or more Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being added, the requirements of Section 1108 of the International Building Code for Type B units apply only to the quantity of the spaces being added.~~ Where Group I-1, I-2, R-1, R-2, R-3 or R-4 dwelling or sleeping units are being altered or added within an existing building and where the *work area* is greater than 50 percent of the aggregate area of the building, the requirements of Section 1108 of the International Building Code for Type B units apply only to the quantity of the ~~spaces~~ dwelling or sleeping units being altered or added.

Reason: The intent of this proposal is to clarify where 'adding' units is for additions or for within existing buildings. With the current text change of occupancy for all or part of a building that converts from another use to apartments or hotel rooms could be interpreted as adding units, or an alteration.

The added sentence to Section 306.6 would clarify that only the dwelling units in the addition are considered for application of accessibility, not where the addition would now push the entire buildings to over 20 units (Type A) or 4 or more (Type B). This is consistent with FHA.

The text in the first sentence of Section 306.7.10.3 appears to addresses additions for Type B units in a section that is under alterations (306.7). The modification to Section 306.6 will address physical additions. Section 306.7.10.3 will address alterations and added units within existing buildings. This will also provide similar terminology for all three types – Accessible, Type A and Type B. This requirement exceed FHA. The current text for Accessible and Type A units is not clear if this is talking about additions; or units being added within an existing building where they did not exist before. The revised text in Sections 306.7.10, 306.7.10.1 and 306.7.10.2 would clarify that this section is for alterations, including a change of occupancy of part or all of a building.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal is merely trying to clear up the applicability of when Accessible units, Type A units and Type B units must be added. Clarification between additions to existing buildings and an addition of new units or alterations to existing units in the existing building is provided. This avoids counting units in the existing buildings inappropriately which will avoid requiring more Accessible Units, Type A units and Type Units than is required. The proposal is not intended as a technical change.

EB32-22

IEBC: SECTION 308, 308.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); John Williams, representing Committee on Healthcare (ahc@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

2021 International Existing Building Code

SECTION 308 CARBON MONOXIDE DETECTION

Revise as follows:

308.1 Carbon monoxide detection. Where an *addition, alteration, change of occupancy* or relocation of a building is made to an existing building ~~Group I-1, I-2, I-4 and R occupancies and classrooms of Group E occupancies~~, the *existing building* shall be provided with carbon monoxide detection in accordance with the International Fire Code or Section R315 of the *International Residential Code*.

Exceptions:

1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.
2. Installation, alteration or *repairs* of plumbing or mechanical systems, other than fuel-burning appliances.
3. Work classified as Level 1 *Alterations* in accordance with Chapter 7.
4. Carbon monoxide detection is not required in each sleeping unit where carbon monoxide detection, which transmits an alarm signal to an approved location, is provided in each space containing a carbon monoxide source.

Reason: The change to the first paragraph in Section 308.1 to make this section consistent with the actions taken on Group A on F102-21 and F116-21 which broadened the requirements for CO detection to all occupancies that present a CO hazard.

Regarding the addition of Exception 4, the revised text in F102-21 and F116-21 expands the CO source to include stoves and fireplaces, not just fuel fired appliances. The Healthcare committee identified that this would require CO detectors in every sleeping unit in hospitals and nursing homes that had a CO source in the building, such as a gas stove or a fireplace, no matter how far away the sleeping rooms were from the CO source. The 2024 IBC/IFC exceptions for CO detectors in the room where the source is located is only for furnaces.

This is also a concern for other occupancies, such as jails, dorms or hotels. Since these locations are outside the scope of the Healthcare committee, the Healthcare committee worked with BCAC and FCAC to expand this proposal. The committees will work together next cycle to address this concern in the IBC/IFC.

Since the 2024 IBC/IFC is not yet available, the following 2024 draft is provided to show the concern. F102-21 had an extensive public comment. The revisions to the current text would read as follows:

CARBON MONOXIDE SOURCE . A piece of commonly used equipment or permanently installed appliance, fireplace or process that produces or emits carbon monoxide gas.

915.1.1 Where required. Carbon monoxide detection shall be installed ~~provided~~ in Group I-1, I-2 and I-4, ~~and R occupancies~~ in the locations specified in Section 915.2 where any of the following conditions ~~in Sections 915.1.2 through 915.1.6~~ exist.

1. In buildings that contain a CO source.
2. In buildings that contain or are supplied by a CO producing forced-air furnace
3. In buildings with attached private garages
4. In buildings that have a CO producing vehicle that is used within the building.

915.2 Locations . ~~Where required by Section 915.1.1, carbon~~ Carbon monoxide detection shall be installed in the locations specified in Sections 915.2.1 through 915.2.6 ~~915.2.3~~.

915.2.2 Sleeping units. Carbon monoxide detection shall be installed in *sleeping units*.

Exception: Carbon monoxide detection shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of

the *sleeping unit* where the *sleeping unit* or its attached bathroom does not contain a ~~fuel-burning appliance~~ CO source and is not served by a carbon monoxide producing forced-air furnace.

915.2.4 CO producing forced-air furnace. Carbon monoxide detection, complying with Item 2 of Section 915.1.1 shall be installed in all enclosed rooms and spaces served by a fuel-burning, forced-air furnace.

Exceptions:

1. Where carbon monoxide detector is provided in the first room or space served by each main duct leaving the furnace, and the carbon monoxide alarm signals are transmitted to an approved locations.
2. Dwelling units that comply with Section 915.2.1.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and the Committee on Healthcare (CHC)..

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 and 2021 of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-committee-on-healthcare/>.

Cost Impact: The code change proposal will increase the cost of construction

This proposal is merely providing consistency with F102-21 and F116-21 which will in fact increase costs since it now requires CO detection more broadly across more occupancies types based upon the presence of CO sources. Without consistency with the revisions in the IBC and IFC will create confusion and difficulty in enforcement. The exception will help to reduce costs as it will allow the CO source for occupancies that have sleeping units to detect for CO at the source rather than in each sleeping unit or in each corridor in the area of sleeping units.

EB34-22

IEBC: SECTION 202 (New), SECTION 310 (New), 310.1 (New), ASTM Chapter 16 (New), UL Chapter 16 (New)

Proponents: Jeffrey Shapiro, representing Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Existing Building Code

Add new definition as follows:

ACCESSORY DWELLING UNIT. An additional, subordinate dwelling unit on the same lot, that is entirely within a dwelling unit, attached to a dwelling unit, or in a detached structure.

Add new text as follows:

SECTION 310 ACCESSORY DWELLING UNITS

310.1 General. Where an accessory dwelling unit or second dwelling unit is added to an existing dwelling, the dwelling units shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code. Such separation shall be provided regardless of whether a lot line exists between dwelling units. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of 1/2 hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904 of the International Residential Code.
2. Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than 1/2-inch (15.9 m) Type X gypsum board, an attic draft stop constructed as specified in International Residential Code Section R302.12.1 is provided above and along the wall assembly separating the dwellings and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 m) gypsum board or equivalent.
3. A fire-resistance rated separation is not required where one of the dwelling units is an accessory dwelling unit and the other is an owner-occupied dwelling unit.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428-2959

E119-2018B

Standard Test Methods for Fire Tests of Building Construction and Materials

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062

723-2018

Test for Surface Burning Characteristics of Building Materials

Reason: In Group A, Code Change Z1-21 added a new definition of Accessory Dwelling Unit, or ADU, with the apparent intent of formally recognizing what has become an increasingly common practice of adding additional dwelling unit(s) to a property or building that was originally intended and limited to function as a single family dwelling unit. The proliferation of ADUs in many jurisdictions as a means of increasing available housing has had an undiscussed consequence of often creating buildings that essentially constitute illegal two-family dwellings / duplexes, in that such buildings do not meet adopted IRC provisions for a two-family dwelling.

The trend essentially allows construction of a single-family dwelling, issuance of a certificate of occupancy, then subdividing the floorplan to provide an additional dwelling unit, completely circumventing the fire safety considerations in the IRC, particularly the requirement for a fire-rated separation. There is no logic behind requiring a building permitted as a two-family dwelling to provide a suitable fire barrier between units, but not requiring that separation for a building permitted as a one-family dwelling that immediately or thereafter adds an ADU. This proposal will return parity between the fire separation requirements for two-family dwellings and dwellings with an ADU.

An exception is provided for ADUs in owner occupied housing because, like lodging houses, these situations at least provide some level of on-site oversight of the ADU. To those who might argue that "owner occupied" is not something that's enforceable under the IRC, IEBC or otherwise, note that the concept of using this as a limitation is already baked into other portions of the IRC for lodging houses (see R101.2, Exception 2 and R320.1). The intent here is to simply duplicate that precedent for ADUs. A similar change has been submitted to the IRC, and the intent of this proposal to the

IEBC is to prevent the IEBC from becoming a loophole to escape the IRC requirement.

Cost Impact: The code change proposal will decrease the cost of construction

The IRC currently requires all two-family dwellings to have a fire separation between dwelling units, and there is currently no differentiation that applies to dwelling units with an added ADU. This proposal provides a limited reduction in the code requirements by allowing an ADU to be unseparated when the primary dwelling unit is owner-occupied, thereby reducing the cost of construction for such cases.

Staff Analysis: ASTM E119 and UL723 are already referenced in the IBC. This is simply a new occurrence of the references in the I-Codes

EB43-22

IEBC: SECTION 406, 406.1, 406.1.1 (New), 406.1.1, 406.1.2, 406.1.3, 406.1.4, 406.1.5

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

SECTION 406 ELECTRICAL

Revise as follows:

~~**406.1 Material-General.** Repairs to existing Existing electrical wiring and equipment undergoing repair shall be allowed to be repaired or replaced with like material in accordance with NFPA 70.~~

Add new text as follows:

406.1.1 Reconditioned Electrical Equipment. Reconditioned electrical equipment shall comply with NFPA 70. Electrical equipment prohibited from being reconditioned by the applicable sections of NFPA 70 shall not be reconditioned.

Delete without substitution:

~~**406.1.1 Receptacles.** Replacement of electrical receptacles shall comply with the applicable requirements of Section 406.4(D) of NFPA 70.~~

~~**406.1.2 Plug fuses.** Plug fuses of the Edison base type shall be used for replacements only where there is no evidence of over fusing or tampering per applicable requirements of Section 240.51(D) of NFPA 70.~~

~~**406.1.3 Nongrounding-type receptacles.** For replacement of nongrounding-type receptacles with grounding-type receptacles and for branch circuits that do not have an equipment grounding conductor in the branch circuitry, the grounding conductor of a grounding-type receptacle outlet shall be permitted to be grounded to any accessible point on the grounding electrode system or to any accessible point on the grounding electrode conductor in accordance with Section 250.130(G) of NFPA 70.~~

Revise as follows:

~~**406.1.4**~~ **406.1.2 Health care facilities.** Portions of electrical systems being repaired in Group I-2, ambulatory care facilities and outpatient clinics shall comply with NFPA 99 requirements for repairs.

Delete without substitution:

~~**406.1.5 Grounding of appliances.** Frames of electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers and outlet or junction boxes that are part of the existing branch circuit for these appliances shall be permitted to be grounded to the grounded circuit conductor in accordance with Section 250.140 of NFPA 70.~~

Reason: The 2020 National Electrical Code (NEC) was revised to include requirements for reconditioned electrical equipment. Numerous sections were added to identify whether a specific piece of electrical equipment was suitable to be reconditioned. Not all electrical equipment is suitable to be reconditioned, rebuilt or remanufactured due to its design features or critical role in electrical safety. For example, a molded case circuit breaker by design is not able to be opened and reconditioned. Molded case circuit breakers that are subjected to flood or fire damage can't be reconditioned and must be replaced. The 2020 NEC includes requirements for specific equipment that cannot be reconditioned, such as molded case circuit breakers.

This proposal is intended to update the requirements in the IEBC to match that of the current edition of NFPA 70 the NEC. Section 406.1 was modified to include a reference to NFPA 70 for reconditioning. A new section 406.1.1 was added to clarify what equipment can be reconditioned and to identify the requirements that reconditioned electrical equipment be specifically marked in accordance with Section 110.21(A)(2) of NFPA 70.

The existing Sections 406.1.1, 406.1.2, 406.1.3 and 406.1.5 were deleted since these sections were repeats of requirements found in NFPA 70. There are differences between the requirements as written in the 2020 NEC and the existing sections in the IEBC. The requirements found in the sections are best left in NFPA 70. Additionally, the existing Section 406.1.4 was renumbered to 406.1.2 and left since this section references NFPA 99 for health care facilities.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal will provide direction to the appropriate existing requirements for repair and reconditioning of electrical systems. The current provisions were not aligned with NFPA 70. These revisions simply makes the requirements consistent for enforcement and will not increase costs.

EB46-22

IEBC: 502.1, CHAPTER 11, SECTION 1101, 1101.1, 1101.2, 1101.3, 1101.4, 1101.5 (New), 1301.2.3

Proponents: Stephen Thomas, representing Self (sthomas@coloradocode.net)

2021 International Existing Building Code

Revise as follows:

502.1 General. *Additions* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* to the *existing building* or structure shall be made to ensure that the *existing building* or structure together with the *addition* are not less complying with the provisions of the *International Building Code* than the *existing building* or structure was prior to the *addition*. An *existing building* together with its *additions* shall comply with the height and area provisions of Chapter 5 of the International Building Code.

Where a new occupiable roof is added to a building or structure, the occupiable roof shall comply with the provisions of the International Building Code.

CHAPTER 11 ADDITIONS

SECTION 1101 GENERAL

1101.1 Scope. An *addition* to a building or structure shall comply with the International Codes as adopted for new construction without requiring the *existing building* or structure to comply with any requirements of those codes or of these provisions, except as required by this chapter. Where an *addition* impacts the *existing building* or structure, that portion shall comply with this code.

1101.2 Creation or extension of nonconformity. An *addition* shall not create or extend any nonconformity in the *existing building* to which the *addition* is being made with regard to accessibility, structural strength, fire safety, means of egress or the capacity of mechanical, plumbing or electrical systems.

1101.3 Other work. Any *repair* or *alteration* work within an *existing building* to which an *addition* is being made shall comply with the applicable requirements for the work as classified in Chapter 6.

1101.4 Enhanced classroom acoustics. In Group E occupancies, enhanced classroom acoustics shall be provided in all classrooms in the *addition* with a volume of 20,000 cubic feet (565 m³) or less. Enhanced classroom acoustics shall comply with the reverberation time in Section 808 of ICC A117.1.

Add new text as follows:

1101.5 Occupiable Roofs. Where a new occupiable roof is added to a building or structure, the occupiable roof shall comply with the provisions of the International Building Code.

Revise as follows:

1301.2.3 Additions. *Additions* to *existing buildings* shall comply with the requirements of the *International Building Code* or the *International Residential Code* for new construction. The combined height and area of the *existing building* and the new *addition* shall not exceed the height and area allowed by Chapter 5 of the International Building Code. Where a fire wall that complies with Section 706 of the International Building Code is provided between the *addition* and the *existing building*, the *addition* shall be considered a separate building. Where a new occupiable roof is added to a building or structure, the occupiable roof shall comply with the provisions of the International Building Code.

Reason: The purpose of this proposed language is to provide guidance to the use of the code as to what is required when an occupiable roof is added to a building. The proposal would confirm that the occupiable roof will need to comply with the provisions of the International Building Code. This could include the means of egress, accessibility and live load requirements. Many roofs are not designed to support the loads imposed when an occupiable roof is added to a building. This would require that the structure be upgraded to support the additional loads, that a means of egress is provided in accordance with Chapter 10 of the IBC and that an accessible route be provided if one is required by Chapter 11 of the IBC, to just name a few requirements.

The new language has been added to each of the three different options for compliance. The definition of an addition is "An extension or increase in floor area, number of stories, or height of a building or structure". I would argue that the new occupiable roof is an increase in the floor area. It is not an increase in building area, but is increasing the floor area for the purpose egress and accessibility.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The intent of this proposal is to clarify that a new occupiable roof must comply with the provisions of the building code. The requirements are essentially already in the code, but this change clarifies the requirement.

EB47-22

IEBC: 502.1.1 (New), 1101.3 (New)

Proponents: David Bonowitz, representing FEMA-ATC Seismic Code Support Committee (dbonowitz@att.net); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, representing FEMA (mike.mahoney@fema.dhs.gov)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-STRUCTURAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Existing Building Code

Add new text as follows:

502.1.1 Risk category assignment. Where the addition and the existing building have different occupancies, the risk category of each existing and added occupancy shall be determined in accordance with Section 1604.5.1 of the *International Building Code*. Where application of that section results in a higher risk category for the existing building, such a change shall be considered a change of occupancy and shall comply with Section 506 of this code. Where application of that section results in a higher risk category for the addition, the addition and any systems in the existing building required to serve the addition shall comply with the requirements of the *International Building Code* for new construction for the higher risk category.

1101.3 Risk category assignment. Where the addition and the existing building have different occupancies, the risk category of each existing and added occupancy shall be determined in accordance with Section 1604.5.1 of the *International Building Code*. Where application of that section results in a higher risk category for the existing building, such a change shall be considered a change of occupancy and shall comply with Section 506 of this code. Where application of that section results in a higher risk category for the addition, the addition and any systems in the existing building required to serve the addition shall comply with the requirements of the *International Building Code* for new construction for the higher risk category.

Reason: This proposal clarifies how risk category should be assigned where the addition and the existing building have different uses. It creates identical provisions in the Prescriptive and Work Area methods.

IBC Section 1604.5.1 already covers conditions like this for new buildings. Generally, IEBC users would use IBC Section 1604.5 to find the risk category where any IEBC provision calls for it, but there is no general IEBC provision that explicitly points there. The case of additions, where the IEBC already requires the addition to be designed and built as new construction, is of particular interest, so this proposal provides a common sense interpretation.

As background and precedent, it is worth noting the other cases where the current codes address mismatched uses:

- IEBC Section 302.5 points to IBC Chapter 3 to assign occupancies, and Chapter 3 points in turn to Section 508 for buildings with mixed occupancies.
- IEBC Section 304.3 points to IBC Section 1604.5 to assign risk categories, and Section 1604.5.1 addresses mixed use buildings, requiring each portion of a new building to be assigned to the highest risk category of any portion on which it is structurally or functionally dependent. This proposal creates new IEBC sections to make that reference more direct and explicit for the case of additions.
- IEBC Section 1101.2 prohibits deficiencies in existing buildings from being extended into additions. (We are separately proposing a similar provision for the Prescriptive method.)
- IEBC Sections 506.5.4 and 1006.4 address operational access to RC IV facilities that might be affected by a change of occupancy project, but there is no similar provision for additions. This proposal would address that situation in a different way, by acknowledging that a dependent addition to a RC IV building must itself be assigned to RC IV, and that a RC IV addition changes the occupancy of a dependent non-RC IV existing building.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The proposal merely provides a more explicit interpretation of the current code for the special case of additions.

EB48-22

IEBC: 502.1.1 (New), 1101.2

Proponents: David Bonowitz, representing FEMA-ATC Seismic Code Support Committee (dbonowitz@att.net); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, representing FEMA (mike.mahoney@fema.dhs.gov)

2021 International Existing Building Code

Add new text as follows:

502.1.1 Creation or extension of nonconformity. An addition shall not create or extend any nonconformity in the existing building to which the addition is being made with regard to accessibility, structural strength, supports and attachments for nonstructural components, fire safety, means of egress or the capacity of mechanical, plumbing or electrical systems.

Exception: Nonconforming supports and attachments for nonstructural components that serve the addition from within the existing building need not be altered to comply with International Building Code Section 1613 unless the components are part of the addition's life safety system or are required to serve an addition assigned to Risk Category IV.

Revise as follows:

1101.2 Creation or extension of nonconformity. An addition shall not create or extend any nonconformity in the existing building to which the addition is being made with regard to accessibility, structural strength, supports and attachments for nonstructural components, fire safety, means of egress or the capacity of mechanical, plumbing or electrical systems.

Exception: Nonconforming supports and attachments for nonstructural components that serve the addition from within the existing building need not be altered to comply with International Building Code Section 1613 unless the components are part of the addition's life safety system or are required to serve an addition assigned to Risk Category IV.

Reason: This proposal clarifies the current intent of the IEBC for cases where an addition relies on the existing building for certain systems or services – or vice versa.

The code already requires that any addition should itself be designed and built as new construction. This proposal ensures that the new addition is provided with suitable support from the existing building, consistent with the code's current intent. Examples:

- An addition might get its hot water from mechanical systems in the existing building, or might rely on a stair tower in the existing building for egress. In these cases, the addition is new and ought to have mechanical systems and egress capacity that are like new as well.
- A horizontal addition will include an elevator and new HVAC equipment meant to serve both the addition and the existing building. If the existing building is assigned to Risk Category IV, then the new systems should meet requirements for RC IV buildings even if the addition itself contains only RC II uses.

We believe this is the current intent of the code, and the Work Area method Sec 1101.2 already captures this intent for critical systems -- accessibility, structural strength, fire safety, egress, and MEP systems. Section 1101.2 sensibly requires that if the addition must be built as new construction, we wouldn't allow it to be built with deficient systems as a standalone structure, so why would we allow it to be served with deficient systems just because they're in an adjacent existing building?

But the current provision is not quite clear about bracing (especially seismic) of nonstructural components. Some might read "structural strength" to include "supports and attachments for nonstructural components" since the latter are covered in IBC Chapter 16. Some might consider the current reference to MEP systems to include their bracing and support. Nevertheless, the code is not as clear as it could be regarding this issue, so this proposal clarifies it.

Why the new exception? Despite what we believe is a laudable intent, we also recognize that the reason these items get overlooked is that it can be expensive to expose, evaluate, and retrofit nonstructural systems (even those already included in the list under fire safety, egress, and MEP). So the proposal adds an exception that effectively requires retrofit only for those systems serving RC IV additions where post-earthquake functionality is inherent in the design assumptions. Similarly, *life safety systems* must be functional in the addition, so they are not eligible for the exception either. The exception refers to IBC Section 1613 because that would be the default criteria if the exception were not provided, as indicated by Section 1101.1 (not shown) or by Section 502.1 (not shown) for the Prescriptive method.

Thus, depending on how one interprets the current code, this proposal is either an extension of the requirement in current Section 1101.2, or a relaxation of it through an exception. Either way, we submit that this proposal finds the right balance and should be in both the Work Area and Prescriptive methods. Therefore, in addition to revising Sec 1101.2, this proposal copies it into the Prescriptive method, where it will clarify the similar but implicit requirement in the first sentence of Section 502.1.

Finally, it's worth observing that if you don't want to retrofit existing systems, there's an easy way out. Just design your addition to be structurally and functionally separate from the existing building, as IBC Section 1605.4.1 and IEBC Section 1101.2 both allow. Thus, neither the current code nor

this proposal actually mandates any upgrade to the existing building for an independent addition. But *without* this proposal, the incentive is to save money on the addition by relying on deficient systems in the existing building, or by having it serve the RC IV existing building while being designed itself as RC II. This proposal removes those perverse incentives.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The proposal should not increase the cost of construction because it merely clarifies the intent of the current code, especially Section 1101.2, which prohibits the creation or extension of a deficient building system within an existing building when an addition is made. In some cases, depending on how the current code is interpreted, the proposed new Exception might actually reduce the cost of an addition.

EB61-22

IEBC: [BS] 502.5, [BS] 503.4, [BS] 805.3, [BS] 1103.2

Proponents: David Bonowitz, representing FEMA-ATC Seismic Code Support Committee (dbonowitz@att.net); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, representing FEMA (mike.mahoney@fema.dhs.gov); Robert Pekelnicky, representing FEMA Seismic Code Support Committee (rpekelnicky@degenkolb.com)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-STRUCTURAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Existing Building Code

Revise as follows:

[BS] 502.5 Existing structural elements carrying lateral load. Where the *addition* is structurally independent of the *existing structure*, existing lateral load-carrying structural elements shall be permitted to remain unaltered. Where the *addition* is not structurally independent of the *existing structure*, the *existing structure* and its *addition* acting together as a single structure shall be shown to meet the requirements of Sections 1609 and 1613 of the International Building Code using full seismic forces.

Exceptions:

1. Any existing lateral load-carrying structural element whose demand-capacity ratio with the *addition* considered is not more than 10 percent greater than its demand-capacity ratio with the *addition* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the International Building Code. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.

When calculating demand-capacity ratios for wind, the date of original construction shall be permitted to be taken as the date of completion of a prior retrofit in compliance with Section 1609 of the *International Building Code* or the codes or standards in effect at the time of the retrofit. When calculating demand-capacity ratios for earthquake, the date of original construction shall be permitted to be taken as the date of completion of a prior retrofit in compliance with Section 304.3.1 or the codes or standards in effect at the time of the retrofit.

2. Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the *existing building* and the *addition* together comply with the conventional light-frame construction methods of the *International Building Code* or the provisions of the *International Residential Code*.

[BS] 503.4 Existing structural elements carrying lateral load. Except as permitted by Section 503.13, where the *alteration* increases design lateral loads, results in a prohibited structural irregularity as defined in ASCE 7, or decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall meet the requirements of Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted.

Exceptions:

1. Any existing lateral load-carrying structural element whose demand-capacity ratio with the alteration considered is not more than 10 percent greater than its demand-capacity ratio with the alteration ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the *International Building Code*. Reduced seismic forces shall be permitted. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of additions and alterations since original construction.

When calculating demand-capacity ratios for wind, the date of original construction shall be permitted to be taken as the date of completion of a prior retrofit in compliance with Section 1609 of the *International Building Code* or the codes or standards in effect at the time of the retrofit. When calculating demand-capacity ratios for earthquake, the date of original construction shall be permitted to be taken as the date of completion of a prior retrofit in compliance with Section 304.3.1 or Section 304.3.2 item 1 or item 3 or the codes or standards in effect at the time of the retrofit.

2. Buildings in which the increase in the demand-capacity ratio is due entirely to the addition of rooftop-supported mechanical equipment individually having an operating weight less than 400 pounds (181.4 kg) and where the total additional weight of all rooftop equipment placed after initial construction of the building is less than 10 percent of the roof dead load. For purposes of this exception, "roof" shall mean the roof level above a particular story.

[BS] 805.3 Existing structural elements resisting lateral loads. Except as permitted by Section 805.4, where the *alteration* increases design lateral loads, or where the alteration results in prohibited structural irregularity as defined in ASCE 7, or where the *alteration* decreases the capacity of any existing lateral load-carrying structural element, the structure of the altered building or structure shall meet the requirements of Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted.

Exception: Any existing lateral load-carrying structural element whose demand-capacity ratio with the *alteration* considered is not more than 10 percent greater than its demand-capacity ratio with the *alteration* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction. When calculating demand-capacity ratios for wind, the date of original construction shall be permitted to be taken as the date of completion of a prior retrofit in compliance with Section 1609 of the International Building Code or the codes or standards in effect at the time of the retrofit. When calculating demand-capacity ratios for earthquake, the date of original construction shall be permitted to be taken as the date of completion of a prior retrofit in compliance with Section 304.3.1 or Section 304.3.2 item 1 or item 3 or the codes or standards in effect at the time of the retrofit.

[BS] 1103.2 Lateral force-resisting system. Where the *addition* is structurally independent of the *existing structure*, existing lateral load-carrying structural elements shall be permitted to remain unaltered. Where the *addition* is not structurally independent of the *existing structure*, the *existing structure* and its *addition* acting together as a single structure shall meet the requirements of Sections 1609 and 1613 of the *International Building Code* using full seismic forces.

Exceptions:

1. Buildings of Group R occupancy with not more than five dwelling or sleeping units used solely for residential purposes where the *existing building* and the *addition* comply with the conventional light-frame construction methods of the *International Building Code* or the provisions of the *International Residential Code*.
2. Any existing lateral load-carrying structural element whose demand-capacity ratio with the *addition* considered is not more than 10 percent greater than its demand-capacity ratio with the *addition* ignored shall be permitted to remain unaltered. For purposes of calculating demand-capacity ratios, the demand shall consider applicable load combinations with design lateral loads or forces in accordance with Sections 1609 and 1613 of the *International Building Code*. For purposes of this exception, comparisons of demand-capacity ratios and calculation of design lateral loads, forces and capacities shall account for the cumulative effects of *additions* and *alterations* since original construction.

When calculating demand-capacity ratios for wind, the date of original construction shall be permitted to be taken as the date of completion of a prior retrofit in compliance with Section 1609 of the International Building Code or the codes or standards in effect at the time of the retrofit. When calculating demand-capacity ratios for earthquake, the date of original construction shall be permitted to be taken as the date of completion of a prior retrofit in compliance with Section 304.3.1 or the codes or standards in effect at the time of the retrofit.

Reason: This proposal clarifies the meaning of “original construction” used to assess “cumulative effects” in the current “10% rule” exceptions for additions and alterations. The clarification rationally resets the baseline for assessing these cumulative effects when a qualifying retrofit is done. The proposal ensures that lateral (wind and seismic) upgrades are not triggered too easily for buildings that should not need them because they have already been retrofitted. In clarifying this exception, the proposal makes no change in the intent of the exception overall. Further, since this is a rational interpretation of a point on which the current code is incomplete, it should not change the effect of the triggering provision or the exception.

The proposal makes matching edits to the Prescriptive and Work Area methods.

For each project type (addition or alteration), the qualifying prior retrofit matches the criteria applicable to the overall provision -- "full" seismic criteria for additions, and "reduced" criteria for alterations. However, in the case of alterations, only a full-building retrofit should be deemed to qualify, so a retrofit by Appendix A (Section 304.3.2 item 2) is not allowed.

Since prior retrofits would not typically be done to current standards in Section 304.3, all of the proposed changes also allow the qualifying retrofit to be one based on the corresponding criteria from the time of the retrofit.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The proposal should have no impact on project cost because it merely clarifies a common-sense interpretation of the existing provisions. Where the current provision is misunderstood or misapplied, the proposal could actually result in lower project costs.

EB65-22

IEBC: [BS] 503.5, [BS] 906.3

Proponents: David Bonowitz, representing FEMA-ATC Seismic Code Support Committee (dbonowitz@att.net); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, representing FEMA (mike.mahoney@fema.dhs.gov)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-STRUCTURAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Existing Building Code

Revise as follows:

[BS] 503.5 Seismic Design Category F. Where the *work area* exceeds 50 percent of the building area, and where the building is assigned to Seismic Design Category F, the structure of the altered building shall meet the requirements of Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted. Supports and attachments for nonstructural components serving any portion of the building with a use included in Risk Category IV shall comply with Section 1613 of the *International Building Code* or shall comply with ASCE 41 using an objective of Position Retention nonstructural performance with the BSE-1E earthquake hazard level.

[BS] 906.3 Seismic Design Category F. Where the building is assigned to Seismic Design Category F, the structure of the altered building shall meet the requirements of Sections 1609 and 1613 of the International Building Code. Reduced seismic forces shall be permitted. Supports and attachments for nonstructural components serving any portion of the building with a use included in Risk Category IV shall comply with Section 1613 of the *International Building Code* or shall comply with ASCE 41 using an objective of Position Retention nonstructural performance with the BSE-1E earthquake hazard level.

Reason: This proposal protects essential nonstructural systems and components in existing Risk Category IV buildings. The fire stations, emergency operations centers, hospital emergency departments, and other facilities assigned to RC IV are especially reliant on the performance of nonstructural systems. Yet the current code, even in the rare cases where it triggers seismic upgrade, does not even require bracing of existing nonstructural components (let alone ruggedness to ensure functionality).

This proposal provides a basic level of protection, limited to the most crucial and cost-beneficial situations where structural retrofit is already triggered. It applies only to major (Level 3) alterations to buildings already assigned to RC IV *and* located in areas with very high seismicity (SDC F), where the code already requires a seismic structural evaluation and possibly a retrofit. This proposal would supplement the triggered structural work by including the nonstructural systems that keep the RC IV areas functional. In addition, consider its limited scope:

- Common alterations (Level 1 or Level 2) are exempt.
- RC IV buildings in areas of low, moderate, and even some high seismicity are exempt.
- Existing nonstructural systems that are not needed to serve the RC IV uses are exempt.
- Even where not exempt, reduced seismic design criteria are allowed, as is typical in the IEBC for alteration projects.
- By allowing reduced criteria, the proposal waives any retroactive certification or testing of the existing components themselves.

As is normal in the IEBC, “reduced” seismic criteria, represented by the specified ASCE 41 objective, are allowed for alteration triggers. (The code-based criteria are not reduced because there’s no simple way to do that except to say “pretend it’s a RC II building,” which would be confusing. So Section 1613 is allowed for those not yet familiar with ASCE 41, the national standard for seismic evaluation and retrofit, while those who practice in SDC F areas are most likely to be familiar already with ASCE 41.)

This proposal fills a gap in the code related to the expected performance of RC IV facilities, but it is consistent with other requirements related to the performance of these buildings. For reference and as precedents, consider:

- Current IEBC requirements for operational access to RC IV facilities affected by a change of occupancy (502.6 and 1103.3)
- ICC 500 requirements for storm shelter “critical support systems,” which requires an existing building to protect mechanical and plumbing systems that support a storm shelter addition.
- IBC 1604.5.1 requirements for assigning risk category in buildings with multiple occupancies. Even if a portion of a building has no RC IV use itself, and even if it is structurally separated from any RC IV uses, it is still assigned to RC IV if it provides access, egress, or life safety systems to the RC IV portion.
- Damage to the new Olive View hospital in the Northridge earthquake. The structure did fine. Nonstructural failures shut down the hospital.
- Too many articles, white papers, and reports to name, all arguing that we need to take nonstructural systems more seriously.

The proposal makes matching edits to the Prescriptive and Work Area methods.

Notes on phrasing:

- “occupancy included in the risk category” is the phrasing already in Sec 1605.4.1.
- The proposal applies to nonstructural systems that “serve” RC IV uses within the building. This is similar to the “work area” concept, but it does not use that terminology because distributed nonstructural systems (HVAC, elevators) can be critical to the work area without actually being within it. Thus, the triggered scope might extend beyond the defined “work area” even if it does not involve the whole building.

Cost Impact: The code change proposal will increase the cost of construction

The proposal will increase costs only for RC IV facilities in very high seismic areas undergoing major alterations, and therefore already subject to structural retrofit. In addition, its scope and criteria are limited to minimize cost increases, as explained in the Reason Statement, and the proposal affects only nonstructural components that are deficient relative to the reduced criteria.

EB67-22

IEBC: [BS] 503.12, [BS] 706.3.2, [BS] C201.1

Proponents: Michael Fillion, representing National Council of Structural Engineers Associations (mrf.structure@verizon.net); Don Scott, representing ASCE 7 Wind Load Subcommittee (dscott@pcs-structural.com)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-STRUCTURAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Existing Building Code

Revise as follows:

[BS] 503.12 Roof diaphragms resisting wind loads in high-wind regions. Where the intended *alteration* requires a permit for reroofing and involves removal of roofing materials from more than 50 percent of the roof diaphragm of a building or section of a building located where the ~~ultimate design basic~~ ultimate design basic wind speed, V , is greater than 130 mph (58 m/s) in accordance with Figure 1609.3(1) of the International Building Code ~~for Risk Category II~~, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof-to-wall connections shall be evaluated for the wind loads specified in Section 1609 of the International Building Code, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting 75 percent of those wind loads, they shall be replaced or strengthened in accordance with the loads specified in Section 1609 of the International Building Code.

Exception: Buildings that have been demonstrated to comply with the wind load provisions in ASCE 7—88 or later editions.

[BS] 706.3.2 Roof diaphragms resisting wind loads in high-wind regions. Where roofing materials are removed from more than 50 percent of the roof diaphragm or section of a building located where the ~~ultimate design basic~~ ultimate design basic wind speed, ~~V_{eff} , V , is greater than 130 mph (58 m/s) determined~~ in accordance with Figure 1609.3(1) of the International Building Code ~~for Risk Category II, is greater than 130 mph (58 m/s)~~, roof diaphragms, connections of the roof diaphragm to roof framing members, and roof-to-wall connections shall be evaluated for the wind loads specified in the *International Building Code*, including wind uplift. If the diaphragms and connections in their current condition are not capable of resisting 75 percent of those wind loads, they shall be replaced or strengthened in accordance with the loads specified in the *International Building Code*.

Exception: Buildings that have been demonstrated to comply with the wind load provisions in ASCE 7—88 or later editions.

[BS] C201.1 Purpose. This chapter provides prescriptive methods for partial structural retrofit of an *existing building* to increase its resistance to wind loads. It is intended for voluntary use where the ~~ultimate design basic~~ ultimate design basic wind speed, ~~V_{eff} , V , is greater than 130 mph (58 m/s) determined~~ in accordance with Figure 1609.3(1) of the International Building Code ~~for Risk Category II, exceeds 130 mph (58 m/s)~~ and for reference by mitigation programs. The provisions of this chapter do not necessarily satisfy requirements for new construction. Unless specifically cited, the provisions of this chapter do not necessarily satisfy requirements for structural improvements triggered by *addition, alteration, repair, change of occupancy*, building relocation or other circumstances.

Reason: Editorial changes to align the wind speed description consistent with ASCE 7 and the *International Building Code*.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The code change proposal is editorial.

EB74-22

IEBC: 505.2, 702.4

Proponents: Jennifer Hatfield, representing Fenestration & Glazing Industry Alliance (formerly AAMA) (jen@jhatfieldandassociates.com); Craig Drumheller, representing WDMA (cdrumheller@wdma.com)

2021 International Existing Building Code

Revise as follows:

505.2 Window fall prevention ~~opening control devices~~ on replacement windows. In Group R-2 or R-3 buildings containing dwelling units, and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, window opening control devices or other window fall prevention devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable.
2. One of the following applies:
 - 2.1. The window replacement includes replacement of the sash and frame.
 - 2.2. The window replacement includes the sash only where the existing frame remains.
3. One of the following applies:
 - 3.1. In Group R-2 or R-3 buildings containing dwelling units, the bottom of the clear opening of the window opening is at a height less than 36 inches (915 mm) above the finished floor.
 - 3.2. In one- and two-family dwellings and townhouses regulated by the *International Residential Code*, the bottom of the clear opening of the window opening is at a height less than 24 inches (610 mm) above the finished floor.
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position.
5. The vertical distance from the bottom of the clear opening of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

Exception: Operable windows where the bottom of the clear opening of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006.

702.4 Window fall prevention ~~opening control devices~~ on replacement windows. In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, window opening control devices or other fall prevention devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable.
2. One of the following applies:
 - 2.1. The window replacement includes replacement of the sash and frame.
 - 2.2. The window replacement includes the sash only where the existing frame remains.
3. One of the following applies:
 - 3.1. In Group R-2 or R-3 buildings containing dwelling units, the bottom of the clear opening of the window opening is at a height less than 36 inches (915 mm) above the finished floor.
 - 3.2. In one- and two-family dwellings and townhouses regulated by the *International Residential Code*, the bottom of the clear opening of the window opening is at a height less than 24 inches (610 mm) above the finished floor.
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position.
5. The vertical distance from the bottom of the clear opening of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

Exception: Operable windows where the bottom of the clear opening of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006.

Reason: These sections are about fall prevention and window opening control devices (WOCDs) are one of several options in addressing fall prevention. This proposal changes the titles of sections 505.2 and 702.4 to properly reflect that these sections are addressing fall prevention in replacement windows and not just specifically WOCDs.

Then within the body of each section the proposal clarifies that window opening control devices or other types of window fall prevention devices complying with ASTM F2090 must be installed during replacement when all the following existing code language applies.

This proposal will not change the current requirements but simply provides clarity and a more proper title to these sections. It also provides for consistency between the two sections as currently section 702.4 does not include "or other fall prevention devices" whereas section 505.2 does.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The proposal will have no effect on the cost of construction as the changes presented are not meant to alter the current requirements but simply meant to provide better clarity that other methods of fall prevention are available. This will lead to more consistent enforcement.

EB79-22

IEBC: 702.4, 702.5

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

Revise as follows:

702.4 Window opening control devices on replacement windows. In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the International Residential Code, window opening control devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable.
2. One of the following applies:
 - 2.1. The window replacement includes replacement of the sash and frame.
 - 2.2. The window replacement includes the sash only where the existing frame remains.
2. The window replacement includes replacement of the sash and the frame.
3. One of the following applies:
 - 3.1. In Group R-2 or R-3 buildings containing dwelling units, the bottom of the clear opening of the window opening is at a height less than 36 inches (915 mm) above the finished floor.
 - 3.2. In one- and two-family dwellings and townhouses regulated by the *International Residential Code*, the bottom of the clear opening of the window opening is at a height less than 24 inches (610 mm) above the finished floor.
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position.
5. The vertical distance from the bottom of the clear opening of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

Exception-Exceptions:

1. Operable windows where the bottom of the clear opening of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006.
2. Operable windows with openings that are provided with window fall prevention devices that comply with F2090.

702.5 Replacement window for emergency escape and rescue openings. Where windows are required to provide *emergency escape and rescue openings* in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, replacement windows shall be exempt from the requirements of Section 1031.3of the International Building Code and Section R310.2of the International Residential Code, provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. Where the replacement window is part of a *change of occupancy* it shall comply with Section 1011.5.6.

Reason: The proposed language is included in the requirements for replacement windows in IEBC. The requirements for the work area method and the prescriptive method should be the same for replacement EEROs.

702.4 – ASTM F2090 address both opening control devices and fall prevention devices. This is already stated in IEBC Section 505.2 and IRC Appendix AJ102.4.4. If this is approved, the titles of these sections should also be revised.

702.5 – This would be consistent with IEBC Section 505.3 and IRC Section 310.5 for replacement windows. This phrase is also included in existing emergency escape and rescue opening with a change of occupancy in IEBC 506.4, 1011.5.6 and IRC 310.7.1.

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virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

There are not changes to construction requirements. These revisions are focused upon making the work area method and prescriptive method verbiage match one another.

EB83-22

IEBC: 804.4, 804.4.1, 804.4.1.1, TABLE 804.4.1.1(1), TABLE 804.4.1.1(2)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

804.4 Number of exits. The number of exits shall be in accordance with Sections 804.4.1 through 804.4.3.

Revise as follows:

804.4.1 Minimum number. Every story or occupied roof utilized for human occupancy on which there is a *work area* that includes exits or corridors shared by more than one tenant within the *work area* shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the *International Building Code*. In addition, the exits shall comply with Sections 804.4.1.1 and 804.4.1.2.

804.4.1.1 Single-exit buildings. A single exit or access to a single exit shall be permitted from spaces, any story or any ~~occupied~~occupiable roof where one of the following conditions exists:

1. The occupant load, number of dwelling units and exit access travel distance do not exceed the values in Table 804.4.1.1(1) or Table 804.4.1.1(2).
2. In Group R-1 or R-2, buildings without an *approved* automatic sprinkler system, individual single-story or multiple-story dwelling or sleeping units shall be permitted to have a single exit or access to a single exit from the dwelling or sleeping unit provided one of the following criteria are met:
 - 2.1. The occupant load is not greater than 10 and the exit access travel distance within the unit does not exceed 75 feet (22 860 mm).
 - 2.2. The building is not more than three stories in height; all third-story space is part of dwelling with an exit access doorway on the second story; and the portion of the exit access travel distance from the door to any habitable room within any such unit to the unit entrance doors does not exceed 50 feet (15 240 mm).
3. In buildings of Group R-2 occupancy of any number of stories with not more than four dwelling units per floor served by an interior exit stairway; with a smokeproof enclosure in accordance with Sections 909.20 and 1023.12 of the *International Building Code* or an exterior stairway as an exit; and where the portion of the exit access travel distance from the dwelling unit entrance door to the exit is not greater than 20 feet (6096 mm).

TABLE 804.4.1.1(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY OR OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
Basement, first, or second or third story above grade plane <u>and occupiable roofs over the first or second floor above grade plane</u>	R-2 ^{a,b,c}	4 dwelling units	50-125 feet
Third-Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

- a. Buildings classified as Group R-2, equipped without an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 of the International Fire Code and provided with emergency escape and rescue openings in accordance with Section 1031 of the International Building Code.
- b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2) of the International Building Code.
- c. This table is for occupiable roofs accessed through and serving individual dwelling units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not access through and serving individual units, use Table 804.4.1.1(2).

TABLE 804.4.1.1(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY OR OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane <u>or occupiable roofs over the first story above grade plane</u>	B ^b , F-2 ^b , S-2 ^a	35-49	75
	S-2 ^{a,b}	35	75
Second story above grade plane	B, F-2, S-2 ^a	35	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or on the roof of such buildings shall have a maximum exit access travel distance of 100 feet.

Reason: This proposal has two reasons.

1. Coordination with IBC Section 1006.3.4 and E21-21 that added occupiable roofs to the single exit tables.
2. The current requirements in Table 804.4.1.1(1) is less that what is permitted for new construction for travel distance and could be read to not allow for a single exit from a 3rd floor. The current requirements for B and F-2 are less than permitted for new construction.

This has been approved for the 2024 IBC through the Approval of E21-21. Proposal E21-21 was approved as submitted and can be found at the following link. <https://www.iccsafe.org/wp-content/uploads/IBC-Egress-2021-Group-A.pdf> The committee reason statement is below:

Committee Reason:

This proposal was approved as an occupied roof is not a story, so the number of exits from the occupied roof needs to be clarified. The location of the occupied roof allowance in Table 1006.3.4(2) is appropriate as the occupied roof over the 1st floor is the same vertical travel as from the basement level. This is a good correlation with the occupied roof requirements in the code. (Vote: 10-4)

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

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Cost Impact: The code change proposal will not increase or decrease the cost of construction

This is a correlation revisions made to the IBC in Group A (2021). Without this correlation the IEBC requirements would be more restrictive than new thus increasing the cost of construction in existing buildings.

EB84-22

IEBC: SECTION 202 (New), 804.4.1.1, 902.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

Add new definition as follows:

OCCUPIABLE ROOF. An exterior space on a roof that is designed for human occupancy, other than maintenance or repair, and which is equipped with a means of egress system meeting the requirements of this code.

Revise as follows:

804.4.1.1 Single-exit buildings. A single exit or access to a single exit shall be permitted from spaces, any story or any ~~occupied~~occupiable roof where one of the following conditions exists:

1. The occupant load, number of dwelling units and exit access travel distance do not exceed the values in Table 804.4.1.1(1) or Table 804.4.1.1(2).
2. In Group R-1 or R-2, buildings without an *approved* automatic sprinkler system, individual single-story or multiple-story dwelling or sleeping units shall be permitted to have a single exit or access to a single exit from the dwelling or sleeping unit provided one of the following criteria are met:
 - 2.1. The occupant load is not greater than 10 and the exit access travel distance within the unit does not exceed 75 feet (22 860 mm).
 - 2.2. The building is not more than three stories in height; all third-story space is part of dwelling with an exit access doorway on the second story; and the portion of the exit access travel distance from the door to any habitable room within any such unit to the unit entrance doors does not exceed 50 feet (15 240 mm).
3. In buildings of Group R-2 occupancy of any number of stories with not more than four dwelling units per floor served by an interior exit stairway; with a smokeproof enclosure in accordance with Sections 909.20 and 1023.12 of the International Building Code or an exterior stairway as an exit; and where the portion of the exit access travel distance from the dwelling unit entrance door to the exit is not greater than 20 feet (6096 mm).

902.1 High-rise buildings. Any building having occupied floors or occupiable roof more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with the requirements of Sections 902.1.1 and 902.1.2.

Reason: This revision is for coordination with G12-21 and G20-21.

Over the last several cycles, code provisions have been added to address issues related to occupied/occupiable, vegetative and landscaped roofs. In some cases, the terms have been used interchangeably, in others applying to specific types of roof systems. With the increasing number of provisions, a definition is needed. A proposal last cycle (G7-19) attempted to add a definition for occupiable roof but was disapproved for several reasons including the fact it did not correlate with the fact the code uses "occupied roof" in some sections and "occupiable roof" in others. This code proposal both adds a definition for "occupiable roof" and changes terminology throughout the code to be consistent with use of "occupiable roof" rather than "occupied roof". The definition is intended to parallel the existing code definition for occupiable space:

[BG] OCCUPIABLE SPACE. A room or enclosed space designed for human occupancy in which individuals congregate for amusement, educational or similar purposes or in which occupants are engaged at labor, and which is equipped with means of egress and light and ventilation facilities meeting the requirements of this code.

The proposed definition is different in a few key ways: The laundry list of uses is left out, and the one clarification made that access for maintenance of rooftop mechanical equipment or other maintenance does not trigger assembly live load requirements or other provisions related to occupiable roofs. The references to light and ventilation are left out as occupiable roofs are exterior spaces. No mechanical ventilation is necessary, and the code does not require lighting for exterior spaces other than portions of the means of egress.

The change to 804.4.1.1 is using the defined term.

The change to 902.1 coordinates with the change to the definition for 'high-rise building' approved in G12-21.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and the ICC Building Code Action Committee (BCAC).

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documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The code change is for consistency with the action taken on G12-21 and G20-21. Without consistency with the IBC proposals the IEBC would be more difficult and unclear to apply and enforce making compliance more complicated and expensive.

EB85-22

IEBC: 804.4, 804.4.1

Proponents: Daniel Nichols, representing MTA Construction and Development (dnichols@mnr.org)

2021 International Existing Building Code

Revise as follows:

804.4 Number of exits. The number of exits or access to exits shall be in accordance with Sections 804.4.1 through 804.4.3.

804.4.1 Minimum number. Every story utilized for human occupancy on which there is a *work area* that includes exits, access to exits, or corridors shared by more than one tenant within the *work area* shall be provided with the minimum number of exits or access to exits based on the occupancy and the occupant load in accordance with the *International Building Code*. In addition, the exits shall comply with Sections 804.4.1.1 and 804.4.1.2.

Reason: When utilizing the Alterations – Level 2 work area method, IEBC Section 804.4.1 requires that any work to a work area that effects any exits or corridors shared by more than one tenant shall be provided with the minimum number of exits. With the recent changes to the IBC expanding the use of exit access stairways, it creates a double-edged sword for existing buildings:

1. For “newer” existing buildings constructed under the more recent editions of the IBC, any Alt. 2 rehab work on a multi-tenant story that effects a corridor will no longer be permitted to utilize the “exit access stairway” allowance that was allowed when first built since the language specifically states “minimum number of exits” without exception
2. In a more general sense, a code user that goes to the IBC looking for the minimum number of exits per story will start at IBC Section 1006.3.3 and Table 1006.3.3. Both the section and the table state “Exits, or access to exits per story.” This gives the IEBC code user little direction if they are limited to just exits, IBC compliant exits, or can use any access to exits? The latter can be very concerning since there is not any limitation to sizing, separation, or travel distances referenced anywhere for this type of application.

The purpose of IEBC 804.4.1.3 is to provide qualifiers to allow for a subset of IBC compliant exit access stairways to be permitted. The 2 sections referenced ensure that the exit access travel distance and the number of stories traveled are both considered in the determination of exit access stairways counting toward the number of “exits” within IEBC Section 804.4

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is to align the methodology of “number of exits” with current requirements within the IBC.

EB87-22

IEBC: 804.11 (New), 804.12 (New), 804.10, 804.10.1, 804.10.2, 804.12, 804.12.1, 804.12.2, 804.11

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

Add new text as follows:

804.11 Stairways. An existing stairway shall not be required to comply with the requirements of Section 1011 of the *International Building Code* where the existing space and construction does not allow a reduction in pitch or slope.

804.12 Escalators. Where provided in below-grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).

Revise as follows:

~~804.10~~ **804.13 Handrails.** The requirements of Sections ~~804.10.1~~ 804.13.1 and ~~804.10.2~~ 804.13.2 shall apply to handrails from the *work area* floor to, and including, the level of exit discharge.

~~804.10.1~~ **804.13.1 Minimum requirement.** Every required exit stairway that is part of the means of egress for any *work area* and that has three or more risers and is not provided with not fewer than one handrail, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails for the full length of the stairway on not fewer than one side. Exit stairways with a required egress width of more than 66 inches (1676 mm) shall have handrails on both sides.

~~804.10.2~~ **804.13.2 Design.** Handrails required in accordance with Section ~~804.10.1~~ 804.13.1 shall be designed and installed in accordance with the provisions of the *International Building Code*.

Exception: Handrails otherwise required to comply with Section 1011.11 of the *International Building Code* shall not be required to comply with the requirements of Section 1014.6 of the *International Building Code* regarding full extension of the handrails where such extensions would be hazardous because of plan configuration.

~~804.12~~ **804.14 Guards.** The requirements of Sections ~~804.12.1~~ 804.14.1 and ~~804.12.2~~ 804.14.2 shall apply to guards from the *work area* floor to, and including, the level of exit discharge but shall be confined to the egress path of any *work area*.

~~804.12.1~~ **804.14.1 Minimum requirement.** Every open portion of a stairway, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

~~804.12.2~~ **804.14.2 Design.** Guards required in accordance with Section ~~804.12.1~~ 804.14.1 shall be designed and installed in accordance with the *International Building Code*.

~~804.11~~ **804.4 Refuge areas.** Where *alterations* affect the configuration of an area utilized as a refuge area, the capacity of the refuge area shall not be reduced below the required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the *International Building Code*. Where the horizontal exit also forms a smoke compartment, the capacity of the refuge area for Group I-1, I-2 and I-3 occupancies and Group B ambulatory care *facilities* shall not be reduced below that required in Sections 407.5.3, 408.6.2, 420.6.1 and 422.3.2 of the *International Building Code*, as applicable.

Reason: The intent of this proposal is to put in the same allowances in the prescriptive method and work area method for 1) existing stairways being replaced, 2) handrail extensions and 3) escalators to below-grade transportation systems. The prescriptive method contains these allowances in Section 503.1 for alterations.

503.1 General. Alterations to any building or structure shall comply with the requirements of the International Building Code for new construction. Alterations shall be such that the existing building or structure is not less complying with the provisions of the International Building Code than the existing building or structure was prior to the alteration.

Exceptions:

1. An existing stairway shall not be required to comply with the requirements of Section 1011 of the International Building Code where the existing space and construction does not allow a reduction in pitch or slope.
2. Handrails otherwise required to comply with Section 1011.11 of the International Building Code shall not be required to comply with the requirements of Section 1014.6 of the International Building Code regarding full extension of the handrails where such extensions would be hazardous because of plan configuration.
3. Where provided in below-grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).

While the purpose of this change is for correlation between IEBC options, the BCAC was informed that there were an issue in the current section on escalators regarding coordination with the ADA (503.1). There is a proposal submitted by Marsha Mazz addressing this issue. If this proposal is successful, the text here should be coordinated. The reordering in Section 804 allows for the requirements for stairways, escalators, handrails and

guards to be located together and refuge areas to be moved behind Group I-2. The end result would be as follows.

SECTION 804

MEANS OF EGRESS

804.1 Scope.

804.2 General.

804.3 Group I-2.

804.4 ~~804.11~~ Refuge areas.

804.5 ~~804.4~~ Number of exits.

804.6 ~~804.5~~ Egress doorways.

804.7 ~~804.6~~ Openings in corridor walls.

804.8 ~~804.7~~ Dead-end corridors.

804.9 ~~804.8~~ Means-of-egress lighting.

804.10 ~~804.9~~ Exit signs.

804.11 Stairways.

804.12 Escalators.

804.13 ~~804.10~~ Handrails.

804.14 ~~804.12~~ Guards.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal merely correlates the stairway and handrail allowances and requirements for the prescriptive method with the work area method.

Otherwise without this allowance when applying the work area method stairways and handrails would be required to strictly comply with the IBC whereas the prescriptive method may not require such compliance. Therefore the intent is provide the same allowed which may either reduce or not change the cost of compliance for the work area method.

EB91-22

IEBC: SECTION 908 (New), 908.1 (New), 908.1.1 (New), 908.1.2 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

2021 International Existing Building Code

Add new text as follows:

SECTION 908

EMERGENCY RESPONDER COMMUNICATIONS ENHANCEMENT SYSTEM COVERAGE

908.1 Emergency Responder Communication Enhancement System Coverage. The existing building shall undergo an evaluation of the emergency responder communication signal strength and coverage area within the entire building in accordance with 908.1.1 and 908.1.2.

Exception: Where it is determined by the fire code official that the emergency responder communication enhancement system (ERCES) is not needed.

908.1.1 Evaluation. The evaluation shall determine the current signal strength and coverage capabilities of the public safety communication systems utilized by the jurisdiction, measured at the exterior of the building.

908.1.2 Compliance. The evaluation report shall be submitted for approval by the fire code official and the frequency license holder. Where the coverage area, signal strength or DAQ does not comply with Section 510 of the International Fire Code, the existing building shall be provided with emergency responder communication enhancement system coverage. The fire code official is authorized to establish the timeframe for such installation or modification.

Reason: Any building undergoing a Level 3 Alteration is likely to have a change in the ERCES coverage areas, signal strength and DAQ within that existing building. This proposal does not require an ERCES installation, The proposal simply adds a requirement for this building to undergo an evaluation of the public communication system coverage to ensure the altered building still complies with the IFC Section 510. The exception in this proposal aligns with the current language in the IFC (510.1 Exception 2).

This proposal is submitted by the ICC Building Code Action Committee (BCAC) and ICC Fire Code Action Committee (FCAC).

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The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

Cost Impact: The code change proposal will increase the cost of construction

The code change proposal will increase the cost of construction as there is a cost associated with the ERCES evaluation being required. Fees are typically \$1K for the evaluation. The ERCES contractor would typically credit the evaluation fee against the purchase or upgrade of an ERCES system. There would be a cost associated with enhancing or installing a new ERCES system within a building that will vary based upon the characteristics of the building including size, location, type of construction and other factors.

EB94-22

IEBC: 1002.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

Revise as follows:

1002.1 Compliance with the building code. Where an *existing building* or part of an *existing building* undergoes a *change of occupancy* to one of the special use or occupancy categories as described in Chapter 4 in the *International Building Code*, the building shall comply with all of the requirements of Chapter 4 of the *International Building Code* applicable to the special use or occupancy.

Exception: Where construction of a new occupiable roof on an existing building results in a high rise building classification, compliance with Section 403 of the *International Building Code* shall not be required. The construction of the occupiable roof shall comply with Section 1011.

Reason: The intent of this proposal is to add an exception for converting portion of roof to an occupiable roof for buildings where the highest floor is below 75' but the roof is about 75'. This will have no impact on existing high-rise buildings.

The exception exempts buildings that were not considered high-rises without the occupied roof from the high-rise package as long as the building is sprinklered, has occupant notification and (if provided) an EVAC system. This is not an exemption from the limitations for occupiable roof so this added occupied roof is not an additional story. The items that would be very difficult or impossible for an existing building to comply with include :

- Moving the stairways to meet separation requirements
- Changing the structural integrity of the stairways
- Adding a secondary water supply.
- Adding a fire command center

In urban environments the opportunity for people to get outside by using the roof is very important for occupant health and well-being.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

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Cost Impact: The code change proposal will decrease the cost of construction

To require compliance with the high-rise provisions in Section 403 of the IBC simply due to the later addition of an occupiable roof would be very expensive. This proposal prevents the need for costly and complex upgrades that would be required.

EB97-22

IEBC: 1011.2.1, 1011.2.1.1 (New), 1011.2.1.1.1 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

2021 International Existing Building Code

1011.2.1 Fire sprinkler system. Where a change in occupancy classification occurs or where there is a *change of occupancy* within a space where there is a different fire protection system threshold requirement in Chapter 9 of the International Building Code that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the International Building Code. The installation of the automatic sprinkler system shall be required within the area of the *change of occupancy* and areas of the building not separated horizontally and vertically from the change of occupancy by one of the following:

1. Nonrated permanent partition and horizontal assemblies.
2. Fire partition.
3. Smoke partition.
4. Smoke barrier.
5. Fire barrier.
6. Fire wall.

Exceptions:

1. An automatic sprinkler system shall not be required in a one- or two-family dwelling constructed in accordance with the International Residential Code.
2. Automatic sprinkler system shall not be required in a townhouse constructed in accordance with the International Residential Code.
3. The townhouse shall be separated from adjoining units in accordance with Section R302.2 of the *International Residential Code*.

Add new text as follows:

1011.2.1.1 Nonrequired automatic sprinkler systems. The code official is authorized to permit the removal of existing automatic sprinkler system where all of the following conditions exist:

1. The system is not required for new construction.
2. Portions of the system that are obvious to the public are removed.
3. The system was not installed as part of any special construction features, including fire-resistance-rated assemblies and smoke-resistive assemblies, conditions of occupancy, means of egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building.

1011.2.1.1.1 Approval. Plans, investigation and evaluation reports, and other data shall be submitted documenting compliance Section 1011.2.1.1 for review and approval in support of a determination authorizing the removal of the automatic sprinkler system by the code official.

Reason: E103-19 was approved as modified. It was disapproved in the final action due because Section 1011.2.1.1.1 did not reference all three items in Section 1011.2.1.1. The concerns raised have been addressed in the revisions.

A change of occupancy could be to an occupancy that did not require a sprinkler system. If the system was old, outdated or needed extensive reconfiguration, costs could be high. The new Section 1011.2.1.1 allows for non required systems to be removed. To be removed the designer/building owner would have to demonstrate to the code official that the building did not need the sprinklers for occupancy, fire areas or type of construction limitations, and that none of the trade off's for items such as travel distance or corridor rating were in effect in the building. The system would have to be removed totally – including the system in the ceiling, standpipes and the connections for the fire department outside of the building.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) and ICC Fire Code Action Committee (FCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This section is essentially providing the allowance to remove a system that is not required and may be providing a false sense of security. Any costs will simply be associated with the removal process. Once removed it will reduce maintenance and repair costs.

EB98-22

IEBC: 1011.5.1, 1011.5.2, 804.12, 804.12.1, 804.12.2

Proponents: John Williams, representing Committee on Healthcare (ahc@iccsafe.org)

2021 International Existing Building Code

Revise as follows:

1011.5.1 Means of egress for change to a higher-hazard category. Where a change of occupancy classification is made to a higher-hazard category (lower number) as shown in Table 1011.5, the means of egress shall comply with the requirements of Chapter 10 of the International Building Code.

Exceptions:

1. Stairways shall be enclosed in compliance with the applicable provisions of Section 903.1.
2. Existing stairways including handrails and guards complying with the requirements of Chapter 9 shall be permitted for continued use subject to approval of the *code official*.
3. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
4. Existing corridor walls constructed on both sides of wood lath and plaster in good condition or 1/2-inch-thick (12.7 mm) gypsum wallboard shall be permitted. Such walls shall either terminate at the underside of a ceiling of equivalent construction or extend to the underside of the floor or roof next above.
5. Existing corridor doorways, transoms and other corridor openings shall comply with the requirements in Sections 804.6.1, 804.6.2 and 804.6.3.
6. Existing dead-end corridors shall comply with the requirements in Section 804.7.
7. An operable window complying with Section 1011.5.6 shall be accepted as an *emergency escape and rescue opening*.
8. In Group I-1 and I-2 facilities, required guards enclosing the occupiable roof areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupiable roof where the occupants, because of clinical needs, require restraint or containment as part of a function of a psychiatric or cognitive treatment area.

1011.5.2 Means of egress for change of use to an equal or lower-hazard category. Where a change of occupancy classification is made to an equal or lesser-hazard category (higher number) as shown in Table 1011.5, existing elements of the means of egress shall comply with the requirements of Section 905 for the new occupancy classification. Newly constructed or configured means of egress shall comply with the requirements of Chapter 10 of the International Building Code.

~~Exception~~ Exceptions:

1. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
2. In Group I-1 and I-2 facilities, required guards enclosing the occupiable roof areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupiable roof where the occupants, because of clinical needs, require restraint or containment as part of a function of a psychiatric or cognitive treatment area.

804.12 Guards. The requirements of Sections 804.12.1 and 804.12.2 shall apply to guards from the *work area* floor to, and including, the level of exit discharge but shall be confined to the egress path of any *work area*.

804.12.1 Minimum requirement. Every open portion of a stairway, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

Revise as follows:

804.12.2 Design. Guards required in accordance with Section 804.12.1 shall be designed and installed in accordance with the *International Building Code*.

Exception: In Group I-1 and I-2 facilities, required guards enclosing the occupiable roof areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupiable roof where the occupants, because of clinical needs, require restraint or containment as part of a function of a psychiatric or cognitive treatment area.

Reason: The intent of this proposal is to allow higher guards for patient safety around outdoor patient garden/exercise areas on the roof. The Healthcare committee understands the guard height limitation for low rise buildings was to allow for fire department access to the roof. However, we feel that the limitations proposed are reasonable.

Access to fresh air and getting outside is incredibly important for older adults who live in Group I-1&I-2 care facilities. These care recipients spend up to 90% of their time indoors and if the only choice of outdoor space requires staff or volunteers to take them downstairs, via an elevator, to get outside, some care recipients never get the opportunity to be outside. If a garden space or other outdoor area can be created on a roof adjacent to sleeping areas, this can make getting outside much easier.

Unfortunately, while we want care recipients to get outside, we also need to keep them safe. We know that exit seeking behavior is prevalent and a 48" barrier is not enough to protect from elopement or self harm.

Outdoor areas are important for patient mental health and wellness. Hospitals and nursing homes in a urban environment often don't have property that would allow for outdoor patient areas. The 'clinical needs' language is an attempt to balance care recipient wellness with safety. These types of facilities have extensive fire and safety evacuation plans and staff that is trained in assisting care recipients and guest for evacuation/defend-in-place during an emergency. Fire departments perform regular inspections of these buildings, to they would be very familiar with the layouts. In addition, these facilities have exceptionally good records for a small number of fire events.

There was a similar change in Group A, G105-21 that had an original intention of allowing for guards to exceed the height limitation required by IBC Section 503.1.4.1. The modification to broaden this allowance for "walls, parapets, rooftop structures (some of which are exempted in Exception 1), and wind screens" on roofs above the reach of fire departments (>75') was appropriate. However, there is still the issue with existing buildings that want to expand or add an occupied roof with the result being –

- If any structure or guard is above 48" high, this is now being considered an additional story so they could violate height limitations for the type of construction.
- If the building is less than 75' in height, you cannot have guards high enough to discourage people from jumping off the roof.

There is a suggestion for Sections 804.12.2, 1011.5.1 and 1011.5.2 for Group I-1 and I-2 where high guards are needed for patient safety. The language for the limitation of 'clinical needs' is the same as IBC Section 101.2.14 for Controlled Egress Doors.

Below are two pictures of a roof garden on a memory care facility. There are glass between the columns.





This proposal is submitted by the Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 and 2021 of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-committee-on-healthcare/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This is an optional allowance for certain facilities so will provide design flexibility. It will cost more if such barriers are constructed but that is an option for the building owner.

EB110-22

IEBC: 1203.3

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

Revise as follows:

1203.3 Means of egress. ~~Existing door openings and corridor and stairway widths less than those specified elsewhere in this code may be approved, provided that, Where~~ in the opinion of the *code official*, there is sufficient width and height for a person to pass through the opening or traverse the means of egress, ~~existing door openings and corridor and stairway widths are not required to meet the widths required by the *International Building Code* or this code.~~ *Where approved by the code official*, the front or main exit doors need not swing in the direction of the path of exit travel, provided that other *approved* means of egress having sufficient capacity to serve the total occupant load are provided.

Reason: There was change EB111-19 that had an editorial correction. This addresses non mandatory language and also addresses the fact that this is likely intending to refer also to the IBC. This proposal also addresses the grammar concern that caused this proposal to disapproved last cycle.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal is merely provided to appropriately revise the language to be more mandatory and clearly provide the correct reference to the IBC as intended. This was a follow-up to a similar proposal EB111-19 and is not intended to change the intent of the section to allow reduced door widths in historic buildings therefore the cost of compliance will not change.

EB116-22

IEBC: APPENDIX E (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); John Williams, representing Committee on Healthcare (ahc@iccsafe.org); Robert Marshall, representing FCAC (fcac@iccsafe.org)

2021 International Existing Building Code

Add new text as follows:

User notes. About this appendix: The primary purpose for Appendix E is to provide guidance for designers, engineers, architects, fire and building code officials to allow temporary emergency uses of existing buildings or temporary structures with respect to the minimum code requirements. This appendix is intended to serve as that template or checklist for use during an emergency that references the relevant code requirement of concerns.

APPENDIX E **TEMPORARY EMERGENCY STRUCTURES AND EMERGENCY USES**

SECTION E101 **GENERAL**

E101.1 Scope. The provisions of this appendix shall apply to the use, construction, installation, alteration, relocation and location of existing buildings or temporary structures and any service utilities or systems that serve such existing buildings or temporary structures during or based on the response to the emergency.”

E101.1.1 Objectives. The objective of this Appendix is to provide flexibility for the code official to permit the temporary uses of existing buildings or temporary structures during an emergency to address unusual circumstances that temporarily overwhelms response capabilities of an entity while maintaining the level of safety intended by the code.

E101.1.2 Temporary use. Where temporary uses during emergencies exceed 180 days, judgement shall be used by the code official to allow for temporary uses and conditions to continue for the duration of the emergency based on the needs of the emergency. The code official is authorized to grant extensions for demonstrated cause.

SECTION E102 **DEFINITIONS**

Add new definition as follows:

EMERGENCY. Any event declared by local, state, or federal entities that temporarily overwhelms response capabilities, and that require the temporary suspension or modification of regulations, codes, or standards to facilitate response to such an event.

TEMPORARY STRUCTURES. That which is built, constructed or erected for a period of less than 180 days.

TEMPORARY USE. An activity or practice that is established at a designated location for a period of less than 180 days. Uses include, but are not limited to, those functional designations listed within the occupancy group descriptions in Section 302.1 of the International Building Code.

Add new text as follows:

SECTION E103 **SUBMITTAL DOCUMENTS**

E103.1 General. Submittal documents shall be of sufficient clarity to indicate the location, nature and extent of the work or use proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the code official.

SECTION E104 **CONFORMANCE**

E104.1 Conformance. Temporary use of existing buildings and temporary structures shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation, and sanitary requirements of this code as necessary to provide a reasonable level of safety, health, and general welfare as determined by the code official. Tents and other membrane structures shall comply with Sections 3102 and 3103 of the *International Building Code*.

E104.2 Changes over time. As an emergency evolves, submittal documents shall be submitted to demonstrate that the temporary uses of the

existing buildings or temporary structures are in compliance with the requirements of the *International Building Code*.

SECTION E105

PERMITS

E105.1 Emergency permits. In an emergency situation, where temporary structures are erected or an existing building undergoes a temporary change of use or occupancy, the *permit* application shall be submitted as soon as practicable to the *code official*. Permits shall be required in accordance with Sections 105.1.1 through 105.1.3.

105.1.1 Temporary structures, other than tents and membrane structures. Temporary structures, other than tents and other membrane structures, that occupy an area greater than 120 square feet (11.16 m²), shall not be constructed, erected, or relocated for any purpose without obtaining a permit from the *code official*.

E105.1.2 Tents and membrane structures. Tents and membrane structures shall be permitted in accordance with the *International Fire Code*.

E105.1.3 Existing buildings. An existing buildings shall not repurposed for a purpose it was not designed for without obtaining a permit from the *code official* for the change of use or occupancy.

SECTION E106

GENERAL STANDARDS FOR EMERGENCY STRUCTURES

E106.1 Scope. The provisions of Sections E106.2 through E106.7 shall apply to all existing structure being repurposed or temporary structures constructed, erected or relocated to support the response to an emergency.

E106.2 Intent. The intent of this section is to provide a base level of safety in a structure built or repurposed for emergency use.

E106.3 Change of use or occupancy. Existing buildings used in a way that was not originally intended by occupancy class or use shall be allowed without formally changing the occupancy class. The previous occupancy class shall be restored upon the conclusion of the emergency. Where the temporary live load of the floor is more than that required by Section 1607 of the *International Building Code* for the original use, the area designated for the temporary live load shall be posted with placards for the approved live load.

E106.4 Fire Safety Provisions. Determination of the fire safety requirements by the *code official* shall be in accordance with Section E106.4.1 through E106.4.5 in order to make determinations of safe conditions rather than strict adherence to the provisions of the *International Fire Code*.

E106.4.1 Fire safety and evacuation plans. Fire safety and evacuation plans shall be provided in accordance with Section 403 and 404 of the *International Fire Code*. Submittal documents shall be updated where there are any physical changes to the layout of the structure.

E106.4.2 Training and practice drills. Training of staff and practice drills shall comply with Section 405 and 406 of the *International Fire Code*. Structures in place for longer than 30 days shall conduct evacuation drill in accordance with Section 405.3 of the *International Fire Code* based on the temporary use.

E106.4.3 Fire Protection. An evaluation shall be performed to decide on fire protection needed utilizing NFPA 550.

E106.4.4 Emergency Access. Emergency vehicle access roads shall be approved by the *fire code official*.

E106.4.5 Fire Watch. A fire watch in accordance with Section 403.11.1 of the *International Fire Code* shall be permitted to be provided in lieu of other fire protection systems.

E106.5 Means of Egress. Means of egress shall comply with Section 1011.5 in addition to Sections E106.5.1 through E106.5.3.

Exception: In Group I-2 occupancies, in areas where corridors are used for movement of care recipients in beds, the clear width of ramps and corridors shall be not less than 48 inches (1219 mm).

E106.5.1 Exit Discharge. Exit discharge shall provide access to a public way, or to a safe dispersal area in accordance with Section 1028.5 of the *International Building Code*

E106.5.2 Means of Egress Lighting. The means of egress shall be illuminated when the space is occupied.

Exception: Sleeping areas.

E106.5.3 Exit Signs. Exit signs shall be provided where the means of egress is not readily identifiable. Exit signs shall be permitted to be illuminated by the lighting provided in the structure.

E106.6 Accessibility. A facility that is constructed to be accessible shall be maintained accessible during occupancy.

E106.7 Temporary connection. The *code official* shall have the authority to authorize the temporary connection of the building or system to the utility, the source of energy, fuel, or power, or the water system or sewer system in accordance with Section 111. Water closets and lavatories shall be either permanent plumbing fixtures installed within the structure, or temporary water closets or lavatories, such as chemical toilets or other

means approved by the code official.

E106.7.1 Portable heating and cooling equipment. Portable heating and cooling equipment shall be used in accordance with their listing, and manufacturer's instructions.

SECTION E107

USE OF SPECIFIC STANDARDS

E107.1 Increased occupant load. Allowing for additional occupants in existing building shall comply with Section E107.1.1 through E107.1.3.

E107.1.1 Authorization. The code official is authorized to allow for an increase in the number of occupants or a change of use in a building or portion of a building during an emergency.

E107.1.2 Maintenance of the means of egress. The existing a means of egress shall be maintained.

E107.1.3 Sleeping areas. Where a space is used for sleeping purposes, the space shall be equipped with smoke alarms in accordance with Sections 907.2.6.2 and 907.2.11 if the International Fire Code or be provided with a fire watch in accordance with Section 403.11.1 of the *International Fire Code*. Carbon monoxide detectors shall be installed in accordance with Section 915 of the *International Fire Code* where the structure uses any fossil fuel or wood burning appliances.

E107.2 Temporary healthcare facilities. Temporary health care facilities shall comply with Section E107.2.1 and E107.2.2.

E107.2.1 General. Temporary health care facilities shall be erected, maintained and operated to minimize the possibility of a fire emergency requiring the evacuation of occupants.

E107.2.2 Membrane structures under projections. Membrane structures of less than 100 square feet (9.3 m²) shall be permitted to be placed under projections of a permanent building provided the permanent building is protected with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

E107.3 Use of tiny houses or manufactured homes. Tiny houses or manufactured homes used for temporary housing shall comply with Section E107.3.1 through E107.3.5.

E107.3.1 Fire separation distances. Tiny houses or manufactured homes shall be separated by not less than 5 feet (1524 mm) between structures.

E107.3.2 Fire breaks. Tiny houses and manufactured homes shall not be located in groups of more than 20 units. Fire breaks of at least 20 feet (6096 mm) shall be provided between each group.

E107.3.3 Smoke alarms. Tiny houses and manufactured homes used for sleeping purposes shall be equipped with a smoke alarm complying with Section 907.2.11. of the *International Fire Code*. Smoke detectors are not required to be hard wired.

E107.3.4 Carbon monoxide detectors. Carbon monoxide detectors shall be installed in accordance with Section 915, where the tiny house or manufactured homes uses any fossil fuel or wood burning appliances.

E107.3.5 Structures located in a wildland urban interface zone. Tiny houses and manufactured homes that a relocated in a wildland urban interface area shall be provided with defensible space in accordance with the Section 603 of the *International Wildland Urban Interface Code*.

E107.4 Tents and membrane structures used as sleeping accommodations. Tents or membrane structures used as sleeping accommodations shall comply with the same requirements as tiny houses in Section E107.3.1 through E107.3.5 and Chapter 31 of the *International Fire Code*.

SECTION E108

REFERENCED STANDARDS

E108.1 General. See Table E108.1 for standards that are referenced in various sections of this appendix. Standards are listed by the standard identification with the effective date, standard title, and the section or sections of this appendix referenced in the standard.

TABLE E108.1 REFERENCED STANDARDS

<u>STANDARD ACRONYM</u>	<u>STANDARD NAME</u>	<u>SECTION REFERENCED HEREIN</u>
<u>NFPA 550-2017</u>	<u>Guide to the Fire Safety Concepts Tree</u>	<u>E106.5.3</u>

Reason: This appendix was originally submitted to IBC as G201-21. Since this proposal extensively dealt with temporary use of existing buildings during an emergency, it was felt it was better suited to IEBC. We believe we have addressed concerns that we learned about during the testimony on the previous proposal and have addressed them in this proposal.

The intent of this appendix is to provide guidance when there are emergencies that exceed the emergencies that the community has planned for. Response must be immediate, so there is not time for the typical plan review and inspection. Existing buildings will be used for occupancies other than they were intended, and temporary structures may need to be erected or brought in to address immediate needs. Recent examples were the housing needs due to mass evacuations during the west coast fires and how hard Covid hit many community health care systems. The user note for this Appendix emphasizes that this is a guidance document for emergencies that exceed pre-planned emergency responses.

The code officials are the people with the experience and knowledge base to identify what can be done and still maintain public health and safety.

This idea is emphasized in Section E101.1.2 and the definition of emergency for this appendix, as well as the modification to the title.

The following revisions were incorporated based on the input received during the hearing:

- The user note states this is a guidance appendix. The idea is used in IFC appendix E and G.
- The title was modified for clarity.
- E101.1.2 – better code language
- Definition for emergency – better code language
- E104.1 was modified to mirror Section 3103.1. This is already permitted by the code. E104.1 has an added sentence clarify that tents and other membrane structures are required to comply with Section 3102 and 3103. These sections also incorporate Chapter 16.
- E104.2 – re-evaluation is not always dependent on additional resources – it could be people being able to return or moving to family.
- E106.1 – This change clarifies that this appendix is applicable to what is happening due to the emergency – not other construction that happens to be occurring at the same time that is not related.
- E106.3 – this modification allows for temporary uses with heavier loading – such as storage of emergency supplies in an office building – where the safe limits are addressed. The change to E104.1 and E106.3 are to address concerns raised by structural engineers about loads.
- E106.5 – An exception was created to clarify that in I-2 Occupancies, corridors can be 48” wide in existing buildings. This is consistent with IEBC Section 804.3 for Level 2 Alterations.
- E107.1 – the modification removed ‘temporary waives for’. The criteria was not related to waivers.
- E107.2.2 – better code language
- E107.3 – use defined term for manufactured homes.
- E107.4 – change ‘tiny homes’ to ‘tiny houses’ for consistent terminology
- E107.5 and NFPA 1660 have been removed as they apply to previously anticipated emergencies. This appendix will only address where these plans are exceeded.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and the Committee on Healthcare (CHC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>. The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in

wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/>

The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 and 2021 of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-committee-on-healthcare/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This appendix is intended to provide a tool to jurisdictions and is not applicable unless adopted. Currently, no formal code requirements provide guidance on how to address. This will provide a framework to make enforcement more consistent and aligned with the requirements of the ICC codes. It was not intended to make compliance more expensive but instead to provide a resource for these emergency situations. These options mirror established ICC codes sections and standards.

Staff Analysis: The standard proposed for inclusion in the code, NFPA 550-17, Guide to the Fire Safety Concepts Tree, was reviewed during Group A with regard to some of the key ICC criteria for referenced standards (Section 3.6 of CP#28). The result of the review can be found here <https://www.iccsafe.org/wp-content/uploads/2021-PROPOSED-NEW-STANDARDS-ANALYSES.pdf>

RB1-22

IRC: R101.2, R102.7.1, R105.3.1.1, R105.1, R110.2, CHAPTER 44(New)

Proponents: David Bonowitz, representing FEMA-ATC Seismic Code Support Committee (dbonowitz@att.net); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, representing FEMA (mike.mahoney@fema.dhs.gov)

2021 International Residential Code

Revise as follows:

R101.2 Scope. The provisions of this code shall apply to the construction, *alteration*, movement, relocation, enlargement, addition to, replacement, *repair*, equipment, use and occupancy, change of occupancy, location, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above *grade plane* in height with a separate means of egress and their *accessory structures* not more than three stories above *grade plane* in height.

Exception: The following shall be permitted to be constructed in accordance with this code where provided with an automatic sprinkler system complying with Section P2904:

1. Live/work units located in townhouses and complying with the requirements of Section 508.5 of the International Building Code.
2. Owner-occupied *lodging houses* with five or fewer guestrooms.
3. A care facility with five or fewer persons receiving custodial care within a *dwelling unit*.
4. A care facility with five or fewer persons receiving medical care within a *dwelling unit*.
5. A care facility for five or fewer persons receiving care that are within a single-family dwelling.

Delete without substitution:

~~**R102.7.1 Additions, alterations or repairs.** *Additions, alterations or repairs to any structure shall conform to the requirements for a new structure without requiring the existing structure to comply with the requirements of this code, unless otherwise stated. Additions, alterations, repairs and relocations shall not cause an existing structure to become less compliant with the provisions of this code than the existing building or structure was prior to the addition, alteration or repair. An existing building together with its additions shall comply with the height limits of this code. Where the alteration causes the use or occupancy to be changed to one not within the scope of this code, the provisions of the International Existing Building Code shall apply.*~~

Revise as follows:

R105.3.1.1 Determination of substantially improved or substantially damaged existing buildings in flood hazard areas. For applications for reconstruction, rehabilitation, *addition, alteration, repair* or other improvement of existing buildings or structures located in a flood hazard area as established by Table R301.2, the *building official* shall examine or cause to be examined the *construction documents* and shall make a determination with regard to the value of the proposed work. For buildings that have sustained damage of any origin, the value of the proposed work shall include the cost to repair the building or structure to its predamaged condition. If the *building official* finds that the value of proposed work equals or exceeds 50 percent of the market value of the building or structure before the damage has occurred or the improvement is started, the proposed work is a substantial improvement or *repair* of substantial damage and the building official shall require existing portions of the entire building or structure to ~~meet the requirements of Section R322~~ comply with the requirements of Chapter 44 applicable in flood hazard areas.

For the purpose of this determination, a substantial improvement shall mean any *repair*, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the building or structure before the improvement or *repair* is started. Where the building or structure has sustained substantial damage, repairs necessary to restore the building or structure to its predamaged condition shall be considered substantial improvements regardless of the actual repair work performed. The term shall not include either of the following:

1. Improvements to a building or structure that are required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to ensure safe living conditions.
2. Any *alteration* of a *historic building* or structure, provided that the *alteration* will not preclude the continued designation as a *historic building* or structure. For the purposes of this exclusion, a *historic building* shall be any of the following:
 - 2.1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places.
 - 2.2. Determined by the Secretary of the US Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district.
 - 2.3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.

R105.1 Required. Any *owner* or owner's authorized agent who intends to construct, enlarge, add to, alter, *repair*, move, relocate, demolish or change the occupancy of a building or structure, or to erect, install, enlarge, alter, *repair*, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be performed, shall first make application to the *building official* and obtain the required *permit*.

Delete without substitution:

~~**R110.2 Change in use.** Changes in the character or use of an existing structure shall not be made except as specified in Sections 506 and 507 of the International Existing Building Code.~~

Add new text as follows:

CHAPTER 44 EXISTING BUILDINGS

SECTION R4401 GENERAL

R4401.1 Applicability. Work on any existing building within the scope of this code shall comply with this chapter.

R4401.2 Compliance. In addition to the provisions of this chapter, work on existing buildings shall comply with applicable provisions in other chapters of this code that reference addition, alteration, repair, change of occupancy, or relocation of an existing building, including alteration or repair of specific systems or components. Provisions in other chapters include, but are not limited to, the following:

1. Emergency escape and rescue openings: Sections R310.5, R310.6, and R310.7.
2. Automatic fire sprinkler systems: Sections R313.1 and R313.2.
3. Smoke alarms: Section R314.2.2.
4. Carbon monoxide alarms: Sections R315.2.2 and R315.5.
5. Foundations: Section R408.3.
6. Wood trusses: Sections R502.11.3 and R802.10.4.
7. Roof assemblies: R908.1 through R908.6
8. Energy efficiency: Sections N1101.5, N1101.13, and N1109 through N1113.
9. Mechanical: Sections M1202, M1411.2, M1601.5, M1801.3, and M2301.1.
10. Fuel gas: Various subsections in Sections G2412, G2417, G2425, and G2427.
11. Plumbing: Sections P2502, P2503.1, P2603.1, P2910.12, P2911.1, P2912.1, P2913.1, P3008.2, P3010, and P3011.
12. Electrical: Sections E3401.4 and E3403.2.

R4401.3 Work on existing buildings. For work on an existing building, the new work itself, whether intended by the owner or required by this code, shall conform to the requirements for a new building, unless otherwise stated. Portions of the building outside the intended scope of work are not required to comply with the requirements of this code for new construction, unless otherwise stated. Work on an existing building shall not cause the existing building to become less compliant with the provisions of this code for new construction than the existing building was prior to the work.

R4401.4 Historic buildings in flood hazard areas. Where the building official has determined in accordance with Section R105.3.1.1 that alteration of a historic building or structure located in a flood hazard area constitutes substantial improvement or repair of substantial damage, the historic building or structure is not required to meet the requirements of Section R322 provided the alteration or repair will not preclude the continued designation as a historic building or structure.

R4401.5 Design criteria. Work within the scope of this chapter shall comply with design criteria provided in Chapter 3 unless otherwise stated.

SECTION R4402 ADDITIONS

R4402.1 Height limits. An existing building together with its additions shall comply with the height limits of this code.

R4402.2 Flood hazard areas. Where the building official has determined in accordance with Section R105.3.1.1 that an addition to an existing building located in a flood hazard area established by Table R301.2 constitutes a substantial improvement, the entire building shall be brought into compliance with the requirements of Section R322.

SECTION R4403

ALTERATIONS

R4403.1 Flood hazard areas. Where the building official has determined in accordance with Section R105.3.1.1 that alteration of an existing building located in a flood hazard area established by Table R301.2 constitutes a substantial improvement, the entire building shall be brought into compliance with the requirements of Section R322.

SECTION R4404 REPAIRS

R4404.1 Flood hazard areas. Where the building official has determined in accordance with Section R105.3.1.1 that an existing building located in a flood hazard area established by Table R301.2 has sustained substantial damage, the entire building shall be brought into compliance with the requirements of Section R322.

SECTION R4405 CHANGE OF OCCUPANCY

R4405.1 Change of use or occupancy. Where the use or occupancy is changed to one not within the scope of this code, the provisions of the *International Existing Building Code* shall apply.

R4405.2 Change in use. Changes in the character or use of an existing building shall not be made except as specified in Sections 506 and 507 of the *International Existing Building Code*.

SECTION R4406 RELOCATED BUILDINGS

R4406.1 Flood hazard areas. Where the building official has determined in accordance with Section R105.3.1.1 that the relocation of an existing building into or within a flood hazard area established by Table R301.2 constitutes a substantial improvement, the entire building shall be brought into compliance with the requirements of Section R322.

Reason: This proposal does two things to improve the IRC's usability and adaptability for existing buildings:

- It creates a new IRC chapter for Existing Buildings: Chapter 44.
- It moves current non-administrative Existing Building provisions out of Chapter 1 and into the new Chapter 44.

The proposal is 100% reorganization and clarification of terminology, to improve the IRC's consistency and completeness. It makes no substantive changes to the IRC at all. The section-by-section portion of this reason statement, below, explains how each of the proposed changes retains the IRC's current scope and intent.

Because the proposal is all reorganization and terminology, it will have no direct effect on construction cost. But it will still benefit IRC users because the reorganization **will make it easier to introduce basic cost-reducing allowances** for existing buildings into the IRC with separate proposals.

Existing Building projects are already within the IRC's scope per Section R101.2, which already says the IRC applies to alterations, repairs, etc. Therefore, the IRC needs to be usable and adaptable as a code for existing buildings, or an "EB code." The need for the IRC to be a functional EB code became even more important in 2018, when the IEBC added an exception to its own scope provision (101.2) allowing almost all existing dwellings and townhouses to use the IRC instead, no matter how old, nonconforming, or deficient, and no matter what code they were built with.

So there should be no debate about the fact that the IRC intends, and needs, to regulate EB projects. The problem is that the IRC has no clear, user-friendly place to put its EB provisions. It already has dozens of EB provisions for various disciplines and systems – from smoke alarms to trusses, from plumbing to energy efficiency – but they're scattered among its chapters, often combined in the same subsection with rules for new construction.

Thus, when new proposals are made for existing dwellings and townhouses – as they were with RB163-19 in the last cycle – they have no place to go, and just get tacked onto Section R102.7.1. Section R102.7.1 is a substantive EB provision with triggers and criteria. It is not an administrative provision, and it does not belong in Chapter 1. Similarly, Section R110.2 is a substantive (not administrative) provision, but it was tacked on to the normal Admin provision about legal occupancy because there was nowhere else to put it. So as new ideas about existing dwellings and townhouses come forward – including cost-saving allowances common to EB codes – are we going to keep dumping them improperly into Chapter 1?

Let's make the IRC a better EB code. In order to function as an EB code, the IRC needs more attention to three things:

- Established EB terminology
- Usability, so users don't have to hunt for provisions that might apply to their specific EB project type
- Basic concepts of an EB code, such as allowances for existing non-conforming conditions.

This proposal deals with only the first two. The third idea is outside the scope of this proposal because it would make substantive changes to the IRC, but in order to bring in these key concepts, we need to take the first two steps, which is what this proposal does.

To implement established EB terminology and improve usability for EB projects, this proposal makes the following changes and additions:

R101.2: These edits ensure that the IRC scope covers the five basic EB project types, like the IEBC: addition, alteration, repair, change of occupancy, and relocation. These terms also match the proposed section titles in the new Chapter 44. It's possible that "movement" (not defined) already covers relocation (also not defined), and "enlargement" (not defined) already covers additions (defined), but we add the IEBC terms for completeness and consistency; they change the IRC's terminology, but not its scope, since all would agree that the IRC already intends to cover these project types. Current R101.2 does not mention "change of occupancy" (defined) but that project type is also clearly within the intended scope of the IRC because R102.7.1, R105.1, and R110.2 all refer to it, and Chapter 2 defines it. (A note about terminology: Even though this section already uses "use and occupancy," the code defines "change of occupancy" to include a change in use. Otherwise, the current IRC is inconsistent. For example: current Section R102.7.1 refers to "use or occupancy;" R105.1 requires a permit to "change the occupancy;" R110.1 is titled "Use and change of occupancy" and uses "change of occupancy" as a defined term; R110.2 is titled "Change in use" and refers to "changes in the character or use;" R310.5 and R310.7.1 use "change of occupancy." Therefore, we propose that the best term to use is the one already defined in the code, especially since that current definition already encompasses a change of use.)

R102.7.1: This is the IRC's current catch-all provision for existing buildings. It does not belong in Chapter 1, however, so the proposal moves it to the new Chapter 44 and splits it to improve usability for specific project types. There is no substantive change.

R105.1: These edits ensure that the IRC permitting requirements cover at least the same scope as Section R101.2 (and IEBC Section 105.1). As in R101.2, the proposal supplements the terms "enlarge" and "move" with "add to" and "relocate" for completeness and consistency with the new Chapter 44.

R105.3.1.1: For purposes of this proposal, the administrative parts of this provision will remain in Chapter 1, and the only change needed is to replace the reference to Section R322 with a pointer to the new Chapter 44, where applicable compliance requirements are provided. There is no change to the substance of the current provision. (Note: The second paragraph of current R105.3.1.1 -- which this proposal does not change at all -- contains the definition of "substantial improvement" used by provisions for flood hazard areas. It also includes the carve-out for historic buildings, parts of which are being copied to proposed new section R4401.4 in coordination with the FEMA Flood program.)

R110.2: This substantive provision does not belong in Chapter 1. The proposal moves it to the new Chapter 44's section for Change of Occupancy. With respect to the wording, the IRC is inconsistent, but "change of occupancy" is the term already used in IEBC Section 506, which this IRC section references.

Part IX – Existing Buildings. CHAPTER 44 EXISTING BUILDINGS: This is the new proposed chapter where the EB provisions currently in Chapter 1 will be placed and organized for better usability. The section titles match the project type terminology from the IEBC and the proposed edits to IRC Section R101.2. (There is no full section proposed for historic buildings because in the current IRC, but see the proposed new section R4401.4.)

R4401.1: This is a general introductory provision, modeled on IEBC Chapter 5. It makes no substantive change to the IRC. The "scope of this code" is provided in Section R101.2.

R4401.2: This new section acknowledges and coordinates with the various EB provisions currently found throughout the IRC. We feel this is the best way to achieve that coordination during the present code cycle. The first sentence is just a reminder that the IRC has other EB provisions. The second sentence is a usability provision with pointers to current EB provisions. (We believe we have pointed to all the relevant EB provisions, but note the use of the phrase "include, but are not limited to." In general, we are pointing to triggering provisions, not to simple mentions of material standards or criteria that might apply to both new construction and to EB projects.)

There are alternatives to this set of pointers, but also good reasons why we did not propose them.

- One approach is to omit the second sentence and the pointers completely. This would be consistent with the current IRC, which does not provide any way-finding help to users with EB projects, but we felt that IRC users would benefit from this usability provision.
- Another option is to actually move the listed provisions into Chapter 44, but we felt that would be unnecessarily disruptive within the current cycle. In future cycles, developers of the various chapters might see the benefit of presenting their EB provisions in Chapter 44. Also, for at least the energy efficiency and fuel gas provisions, moving them to Chapter 44 would interfere in the coordination of the IRC with the IECC and IFGC, from which those EB provisions are copied.

R4401.3: This new provision replaces current Section R102.7.1. There is no substantive change to the thrust of the provision, which still limits triggered work beyond the intended project, imposing only a basic "no less complying" requirement. Some edits have been made for logic and clarity:

- The title "Additions, alterations or repairs" has been changed to the more generic "work," which includes the two other project types covered in Chapter 44 – change of occupancy and relocation – both of which are already mentioned in R102.7.1 but not in its title. The term "work" is consistent with the IEBC definition of "work area" and is already used with the same meaning in IRC flood provisions (R105.3.1.1) and other administrative provisions (e.g. R105.2 Work exempt from permit).

- A key concept of current R102.7.1 (and other EB codes) is that the “intended” work typically has its own work area that can be separated from the rest of the building. Current R102.7.1 refers to the “rest of the building” with the phrase “existing structure,” which is confusing in this context because even the intended alteration, repair, etc. is part of the existing structure. Therefore, the proposed provision refers to the new work “itself” and borrows the concept of “intended work” from the definition of *work area* in the IEBC and in IRC Appendix J. The intended work is the scope of work before any additional scope is triggered by an EB provision like the flood provisions below.
- Consistent with the IRC’s definition of *existing building*, “structure” has been changed to “building.”
- For readability and logic, plural nouns have been changed to singular.
- The phrase “for new construction” is added in two places for logic. The distinction is necessary in a code that covers both new construction and existing buildings.

R4401.4: In coordination with the FEMA Flood program, this proposal copies this substantive provision from current Section R105.3.1.1 into Chapter 44. In format, the new section matches the other flood provisions being added to Chapter 44. There is no substantive change, since the new section matches what’s already in Chapter 1 (it also matches similar provisions in IEBC Sections 507.3 and 1201.4).

R4401.5: This is a general reference to Chapter 3 that matches the IRC’s current intent about design criteria for existing building projects. It makes no substantive change to the IRC. The term “design criteria” does not change the IRC’s allowance of prescriptive criteria; the term is used simply to match the section title and terminology already in Chapter 3.

R4402.1: This is the “additions” sentence from Section R102.7.1, relocated.

R4402.2: This is the “additions” trigger, scope, and criteria relocated from Section R105.3.1.1. Note that IEBC Section 1103.3 provides a longer set of conditions for additions in flood hazard areas, but copying that section here would be a substantive change to the IRC, so it’s not part of this proposal. However, by creating Chapter 44 as shown, **the proposal will make it easier to bring in those cost-saving allowances** with separate proposals.

R4403.1: This is the “alterations” trigger, scope, and criteria relocated from Section R105.3.1.1. The IEBC offers cost-saving allowances for alterations that are not yet in the IRC. They are not part of this proposal because adding them would be a substantive change, but again, **this proposal will make it easier to bring those cost-saving allowances** in with a separate proposal.

R4404.1: This is the “repairs” trigger, scope, and criteria relocated from Section R105.3.1.1. As with alterations, **this proposal will make it easier to bring in cost-saving allowances** like those in the IEBC.

R4405.1: This is the “change of use or occupancy” sentence from Section R102.7.1, relocated and edited. The edit removes a confusing reference to alteration, which is not the same as a change of occupancy and cannot by itself change the occupancy or use. It is a clarification, not a substantive change to the current IRC.

R4405.2: This is Section R110.2, relocated and slightly edited. The edit is a change from “structure” to “building” for consistency with the IRC’s current definitions. There is no substantive change.

R4406.1: This is the implied meaning of the “other improvement” trigger, scope, and criteria from Section R105.3.1.1, applied to relocation projects. Note that IEBC Section 1402.6 provides a similar but more specific trigger for a building moved into a flood hazard area, but copying that here would be a substantive change to the IRC. If that provisions id desirable, **this proposal makes it clearer how to add it to the IRC.**

Finally, separate from this Reason Statement, we have provided notes to Staff about how to coordinate this proposal with other expected proposals that might cover existing buildings in general or would revise the current IRC sections addressed here.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. The proposal is entirely reorganization of current IRC provisions, with a few clarifications of terminology. The Reason Statement for each relocated, revised, and new section explains how the proposal merely maintains the current IRC.

Staff Analysis: The scope and intent of the I-codes is subject to the approval of the ICC Board of Directors.

RB2-22 Part II

PART 1 - IRC: R101.2, R102.7.1, R301.1.3, R301.1.5 (New), R301.1.5.1 (New), R301.1.5.2 (New), R301.1.5.3 (New), R322.1.11 (New), R322.1.12 (New), AJ102.6

PART 2 - IEBC: [A] 101.2, [A] 101.4, 302.2

Proponents: David Bonowitz, representing FEMA-ATC Seismic Code Support Committee (dbonowitz@att.net); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, representing FEMA (mike.mahoney@fema.dhs.gov)

THIS IS A TWO PART CODE CHANGE. PART 1 WILL BE HEARD BY THE INTERNATIONAL RESIDENTIAL CODE BUILDING COMMITTEE AND PART 2 WILL BE HEARD BY THE ADMINISTRATIVE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Existing Building Code

Revise as follows:

[A] 101.2 Scope. The provisions of this code shall apply to the *repair, alteration, change of occupancy, addition* to and relocation of *existing buildings*, unless otherwise stated.

~~**Exception**~~—Detached one- and two-family dwelling and townhouses not more than three stories above grade plane in height with a separate means of egress, and their accessory structures not more than three stories above grade plane in height, shall comply with ~~this code~~ or the *International Residential Code*.

[A] 101.4 Applicability. This code shall apply to the *repair, alteration, change of occupancy, addition* and relocation of *existing buildings*, ~~regardless of occupancy within its scope~~, subject to the criteria of Sections 101.4.1 and 101.4.2.

302.2 Additional codes. *Alterations, repairs, additions and changes of occupancy* to, or relocation of, *existing buildings* and structures shall comply with the provisions for *alterations, repairs, additions and changes of occupancy* or relocation, respectively, in this code and the *International Energy Conservation Code, International Fire Code, International Fuel Gas Code, International Mechanical Code, International Plumbing Code, International Private Sewage Disposal Code, International Property Maintenance Code, International Residential Code* and NFPA 70. Where provisions of the other codes conflict with provisions of this code, the provisions of this code shall take precedence.

Reason: This proposal directs most existing dwellings and townhouses to use the IRC instead of the IEBC. It also ensures that owners of these buildings will lose no advantages by using the IRC. By directing these buildings to the IRC, the proposal **will improve the usability of both codes – and reduce costs** – for owners, streamline the work of designers and builders, make approvals clearer and easier for code officials, simplify adoption for local jurisdictions, and eliminate potential conflicts and omissions for code developers.

Here's the problem. Say you're looking to make a significant alteration to a house. Should you use the IRC or the IEBC? Well, it's an existing building project, so probably the IEBC? But IEBC Section 101.2 allows you to use the IRC, which is probably better for houses, no? In fact, IRC Section R101.2 says the IRC already covers alterations so probably you should have started there in the first place? But if that's true, then why does the exception to IEBC 101.2 make it sound like you have a choice? Maybe you need to check both codes and see which one will cost you less? Does the fact that your building is old and has a lot of non-conforming conditions figure into this at all? Should it?

So while well-intended, the exception to IEBC Section 101.2, which was added in 2018 to allow the IRC as an alternative, actually raises a lot of questions, can cause confusion, and can even raise project costs.

Let's make this easier. The IRC already says it can cover the same existing building projects as the IEBC. So why not just send the dwellings and townhouses to the IRC and keep the IEBC for other buildings? That is what the simple proposed change to IEBC Section 101.2 would do. This simple change would:

- Remove a confusing and mostly pointless “option,” thereby simplifying project planning for owners. In most cases, using the IRC will reduce an owner's project cost, so a clearer path to the IRC is to the owner's benefit.
- Relieve designers and builders from having to check five methods – three in the IEBC, plus the IRC, plus IRC Appendix J – to make sure they're picking the best one for their client.
- Help plan checkers by setting one basic compliance path for any given building.
- Allow jurisdictions to adopt both the IRC and IEBC without having to develop their own amendments to sort out the “options.” (Of course, any jurisdiction that currently adopts Appendix J or amends the model code to specify one compliance path or another can continue to do so.)
- Facilitate future code development and remove duplication from the codes. Currently, any new proposal for existing dwellings or townhouses needs to propose language in at least three places – the IRC, the IEBC Prescriptive method, and the IRC Work Area method. Frequently, proponents forget to include one or another, unintentionally leaving the codes out of sync.

When the exception was added to the 2018 IEBC Section 101.2, the proponents argued that the IRC should be a complete, standalone code for buildings within its scope. This proposal now moves them closer to that goal.

There is one hitch, however, which is why this proposal also needs to make a few changes to the IRC. Currently, given the option, we can expect the owners of most existing dwellings and townhouses to use the IRC. But there are a few cases in which the IEBC does offer advantages over the IRC. The proposal therefore adds IEBC material to the IRC or points back to the IEBC to ensure there's no loss of advantage. The changes (detailed below) address four topics:

- Historic buildings. Since the IRC has no provisions for historic buildings (except for a highly specialized flood provision), the IEBC's allowances should apply.
- Design criteria for engineered design. Current IRC Section 301.1.3 points primarily to the IBC, so this proposal adds a reference to the IEBC to ensure those criteria remain available.
- Existing building materials. The IEBC makes sensible allowances for existing non-conforming materials, and if the IRC wants to be a functional code for existing buildings, it should have these allowances too.
- Additions and foundation alteration in flood hazard areas. The IRC triggers flood upgrades but does not provide the exceptions currently in the IEBC Work Area method.

Aren't there more allowances and waivers for existing buildings in the IEBC? Yes, there are, but we made an exhaustive review and (with a 12-page table) showed that all of them are moot in terms of providing an advantage over the IRC. Most of the IEBC's allowances and exemptions are for cases where the IEBC triggers upgrades outside the intended work area. Since the IRC rarely triggers upgrades in the first place, there's no need for the IEBC's allowances and exemptions. A few others (for example, the IRC does not explicitly allow a "blowout-design" water closet as the IEBC does) are expected to be within the easy discretion of the code official. So the four changes we make with this proposal should give current IEBC users all of the same advantages when they use the IRC instead.

The proposal makes the following specific changes:

In the IEBC:

101.2: The proposal edits this section to change the use of the IRC from an option to a requirement. For a given building, this simple change makes clear which code is to be used for existing building projects – the IEBC or the IRC. For a dwelling, townhouse, or accessory building within the scope of the exception, this is just a stronger version of the hope and expectation of the proponents who added this exception to the 2018 IEBC. For any other building, this edit changes nothing.

As shown, the proposal removes the word "Exception." We were advised by ICC staff and BCAC that if the second sentence no longer presents an option to the user, it cannot be an "exception" by ICC rules. Therefore, the first sentence gets an "unless" clause at the end, and the second sentence becomes a direction to go to the IRC.

101.4: This edit is consistent with the revision to Section 101.2. The phrase "regardless of occupancy" pre-dates the exception to Section 101.2 and should have been removed when the exception was added to the 2018 IEBC. The replacement phrase, "within its scope," refers to Section 101.2.

302.2: This proposal clearly directs any given existing building to either the IEBC or the IRC. Once that's done, there is no need to require IEBC users to also comply with the IRC. (Indeed, because of the last sentence regarding conflicts, the reference to the IRC probably should have been removed when the exception was added to 2018 IEBC Section 101.2.) The IRC does not have a similar provision listing other codes, so no parallel proposal is needed for the IRC.

In the IRC:

R101.2: The only edit here is to add the "change of occupancy" project type to the list already in this section. This ensures that the IRC scope covers all five IEBC project types – addition (i.e. enlargement), alteration, repair, relocation (i.e. movement) and, now, change of occupancy. Current R101.2 already lists "use and occupancy," so it's possible that the current IRC already intends to cover *change* of occupancy, but the edit is recommended in any case for completeness and consistency. There is no doubt that the IRC does intend to cover change of occupancy, since that project type is already defined in IRC Chapter 2 and mentioned in Sections R102.7.1, R105.1, and R110.2. (A note about terminology: Even though this section already uses "use and occupancy," the code defines "change of occupancy" to include a change in use. Otherwise, the current IRC is inconsistent. For example: current Section R102.7.1 refers to "use or occupancy;" R105.1 requires a permit to "change the occupancy;" R110.1 is titled "Use and change of occupancy" and uses "change of occupancy" as a defined term; R110.2 is titled "Change in use" and refers to "changes in the character or use;" R310.5 and R310.7.1 use "change of occupancy." Therefore, we propose that the best term to use is the one already defined in the code, especially since that current definition already encompasses a change of use.)

R102.7.1 regarding historic buildings: The main change to this section is the addition of the final sentence, which ensures that historic buildings assigned to the IRC by this proposal will not lose any of the advantages they might have had by using the IEBC instead. In a future cycle, it might be advisable to copy applicable provisions from IEBC Chapter 12 into the IRC, but it's not clear where they would go, since we would not want to add a whole page of substantive provisions to Chapter 1. Therefore, this is the best solution for this cycle. Reference back to the IEBC has precedent in the IRC. For example, see IRC Section R110.2, which sends the user back to IEBC Sections 506 and 507.

R102.7.1 miscellaneous edits: This proposal makes three other small edits to IRC Section R102.7.1:

- It changes the title of the section to match its content, which already mentions “relocation” and “change of occupancy” as potential projects. The term “work” is consistent with the IEBC definition of “work area” and is already used with the same meaning in IRC flood provisions (R105.3.1.1) and other Admin provisions (e.g. R105.2 Work exempt from permit).
- It adds “relocation” to the end of the second sentence, to match the start of the same sentence.
- It corrects a confusion about project types. An alteration alone does not change a building’s occupancy. An alteration and a change of occupancy are different project types.

R301.1.3: Adding the reference to the IEBC structural criteria ensures that when engineered design is required, the IRC user has access to the structural design criteria allowed by the IEBC, which include reduced seismic loads and ASCE 41. One could argue that this change is not needed because the current provision already relies on “accepted engineering practice,” but since the IBC is specifically listed as a design basis for new construction, it is appropriate to list the IEBC as well.

R301.1.5: Proposed new section R301.1.5 and its subsections ensure that the IRC user has access to these basic allowances from IEBC Section 302, which allow for existing materials and accommodate combinations of existing and new materials. The IEBC text has been modified only slightly to suit the IRC, replacing “code official” with “building official;” replacing “IBC” or “code for new construction” with “this code;” and changing “design criteria” to just “criteria.”

R301.1.5.1: This provision is basic to the IEBC and to any code that intends to function as a code for existing buildings. It is consistent with, but more explicit than, the “unless otherwise stated” clause of IRC Section R102.7.1. (Note: This provision refers to the term *unsafe*, which is defined in the IEBC. By IRC Section 201.3, the IRC incorporates the IEBC’s definitions by reference, so it does not need to be added to the IRC with this proposal.)

R301.1.5.2: This provision allows repairs and alterations to match the existing building conditions, with reasonable limits. (Note: The exception to IEBC Section 402.1 allows glass block, louvers, and shutters to be repaired with like materials. But that exception is not really necessary, since this more general provision goes even further, allowing like materials for both repairs and alterations.)

R301.1.5.3: This provision addresses the question of how to repair, replace, or improve isolated structural members within a structural system. It is approved wording from the IEBC and is consistent with the basic IRC provision in Section R102.7.1 that requires new elements to be as they would be for new construction without requiring the rest of the building – or in this case, the rest of the structural system – to satisfy those same criteria. The exception goes even further, accommodating standards like ASCE 41, which would sometimes allow even the new members to be sized and detailed differently.

R322.1.11 and R322.1.12: These added provisions ensure that the IRC user has access to the more nuanced provisions for additions and foundation alterations in the IEBC Work Area method.

AJ102.6: This edit removes the allowance in Appendix J (an optional appendix) to use the IEBC. Since this proposal would send buildings from the IEBC to the IRC, this allowance in Appendix J is a circular reference, so it needs to be removed.

Finally, we have provided a note to ICC staff about how to coordinate this proposal with other proposals that might relocate certain IRC sections addressed here.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. Currently, IEBC Section 101.2 allows the user to use either the IEBC or the IRC for an existing dwelling or townhouse. Depending on the nature of the project, there are cases where the IEBC is probably cheaper (because it has nuanced provisions and allowances for existing materials) and there are other cases where the IRC is probably cheaper (because it has essentially no structural upgrade triggers outside flood hazard areas). This proposal would eliminate the option and require the IRC -- but it also adds provisions to the IRC that preserve any of the cost-saving advantages of the IEBC. Therefore, any project that would currently opt to use the IEBC will have **no change in construction cost** by using the IRC. But any project that would currently opt to use the IRC **will have a lower cost** because it will now have access to both the IRC advantages and the IEBC advantages. In no case would construction cost increase. Beyond construction cost, as noted in the Reason Statement, this proposal is expected to **reduce overall project and regulation costs by simplifying the compliance path** and removing the need for amendments to sort out the current options.

Staff Analysis: The scope and intent of the I-codes is subject to the approval of the ICC Board of Directors.

RB2-22 Part I

PART 1 - IRC: R101.2, R102.7.1, R301.1.3, R301.1.5 (New), R301.1.5.1 (New), R301.1.5.2 (New), R301.1.5.3 (New), R322.1.11 (New), R322.1.12 (New), AJ102.6

PART 2 - IEBC: [A] 101.2, [A] 101.4, 302.2

Proponents: David Bonowitz, representing FEMA-ATC Seismic Code Support Committee (dbonowitz@att.net); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, representing FEMA (mike.mahoney@fema.dhs.gov)

THIS IS A TWO PART CODE CHANGE. PART 1 WILL BE HEARD BY THE INTERNATIONAL RESIDENTIAL CODE BUILDING COMMITTEE AND PART 2 WILL BE HEARD BY THE ADMINISTRATIVE BUILDING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Residential Code

Revise as follows:

R101.2 Scope. The provisions of this code shall apply to the construction, *alteration*, movement, enlargement, replacement, *repair*, equipment, use and occupancy, *change of occupancy*, location, removal and demolition of detached one- and two-family dwellings and *townhouses* not more than three stories above *grade plane* in height with a separate means of egress and their *accessory structures* not more than three stories above *grade plane* in height.

Exception: The following shall be permitted to be constructed in accordance with this code where provided with an automatic sprinkler system complying with Section P2904:

1. Live/work units located in townhouses and complying with the requirements of Section 508.5 of the International Building Code.
2. Owner-occupied *lodging houses* with five or fewer guestrooms.
3. A care facility with five or fewer persons receiving custodial care within a *dwelling unit*.
4. A care facility with five or fewer persons receiving medical care within a *dwelling unit*.
5. A care facility for five or fewer persons receiving care that are within a single-family dwelling.

R102.7.1 Additions, alterations or repairs Work on existing buildings. *Additions, alterations* or repairs to any structure shall conform to the requirements for a new structure without requiring the existing structure to comply with the requirements of this code, unless otherwise stated. *Additions, alterations, repairs* and relocations shall not cause an existing structure to become less compliant with the provisions of this code than the existing building or structure was prior to the *addition, alteration or repair, or relocation*. An existing building together with its *additions* shall comply with the height limits of this code. Where ~~the alteration causes~~ the use or occupancy is to be changed to one not within the scope of this code, the provisions of the *International Existing Building Code* shall apply. Work on historic buildings shall be permitted to comply with Chapter 12 of the International Existing Building Code.

R301.1.3 Engineered design. Where a building of otherwise conventional construction contains structural elements exceeding the limits of Section R301 or otherwise not conforming to this code, these elements shall be designed in accordance with accepted engineering practice. The extent of such design need only demonstrate compliance of nonconventional elements with other applicable provisions and shall be compatible with the performance of the conventional framed system. Engineered design in accordance with the *International Building Code* or, for existing buildings, the International Existing Building Code is permitted for buildings and structures, and parts thereof, included in the scope of this code.

Add new text as follows:

R301.1.5 Application to existing buildings. The criteria of this section shall apply to work on existing buildings, except as allowed by Sections R301.1.5.1 through R301.1.5.3.

R301.1.5.1 Existing Materials. Materials already in use in a building in compliance with requirements or approvals in effect at the time of their erection or installation shall be permitted to remain in use unless determined by the building official to be unsafe.

R301.1.5.2 New and replacement materials. Except as otherwise required or permitted by this code, materials permitted by this code for new construction shall be used. Like materials shall be permitted for repairs and alterations, provided that unsafe conditions are not created. Hazardous materials shall not be used where this code would not permit their use in buildings of similar occupancy, purpose, and location.

R301.1.5.3 New structural members and connections. New structural members and connections shall comply with the detailing provisions of this code for new buildings of similar structure, purpose, and location.

Exception: Where alternative criteria are specifically permitted.

R322.1.11 Additions to existing buildings. Additions to existing buildings in flood hazard areas shall be permitted to comply with the provisions of

R322.1.12 Foundation alteration in existing buildings. Raised, extended, or replaced foundations for existing buildings in flood hazard areas shall be permitted to comply with the provisions of Section 1103.3 of the *International Existing Building Code*.

Revise as follows:

AJ102.6 Equivalent alternatives. ~~Work performed in accordance with the *International Existing Building Code* shall be deemed to comply with the provisions of this appendix.~~ These provisions are not intended to prevent the use of any alternative material, alternative design or alternative method of construction not specifically prescribed herein, provided that any alternative has been deemed to be equivalent and its use authorized by the building official.

Reason: This proposal directs most existing dwellings and townhouses to use the IRC instead of the IEBC. It also ensures that owners of these buildings will lose no advantages by using the IRC. By directing these buildings to the IRC, the proposal **will improve the usability of both codes – and reduce costs** – for owners, streamline the work of designers and builders, make approvals clearer and easier for code officials, simplify adoption for local jurisdictions, and eliminate potential conflicts and omissions for code developers.

Here's the problem. Say you're looking to make a significant alteration to a house. Should you use the IRC or the IEBC? Well, it's an existing building project, so probably the IEBC? But IEBC Section 101.2 allows you to use the IRC, which is probably better for houses, no? In fact, IRC Section R101.2 says the IRC already covers alterations so probably you should have started there in the first place? But if that's true, then why does the exception to IEBC 101.2 make it sound like you have a choice? Maybe you need to check both codes and see which one will cost you less? Does the fact that your building is old and has a lot of non-conforming conditions figure into this at all? Should it?

So while well-intended, the exception to IEBC Section 101.2, which was added in 2018 to allow the IRC as an alternative, actually raises a lot of questions, can cause confusion, and can even raise project costs.

Let's make this easier. The IRC already says it can cover the same existing building projects as the IEBC. So why not just send the dwellings and townhouses to the IRC and keep the IEBC for other buildings? That is what the simple proposed change to IEBC Section 101.2 would do. This simple change would:

- Remove a confusing and mostly pointless "option," thereby simplifying project planning for owners. In most cases, using the IRC will reduce an owner's project cost, so a clearer path to the IRC is to the owner's benefit.
- Relieve designers and builders from having to check five methods – three in the IEBC, plus the IRC, plus IRC Appendix J – to make sure they're picking the best one for their client.
- Help plan checkers by setting one basic compliance path for any given building.
- Allow jurisdictions to adopt both the IRC and IEBC without having to develop their own amendments to sort out the "options." (Of course, any jurisdiction that currently adopts Appendix J or amends the model code to specify one compliance path or another can continue to do so.)
- Facilitate future code development and remove duplication from the codes. Currently, any new proposal for existing dwellings or townhouses needs to propose language in at least three places – the IRC, the IEBC Prescriptive method, and the IRC Work Area method. Frequently, proponents forget to include one or another, unintentionally leaving the codes out of sync.

When the exception was added to the 2018 IEBC Section 101.2, the proponents argued that the IRC should be a complete, standalone code for buildings within its scope. This proposal now moves them closer to that goal.

There is one hitch, however, which is why this proposal also needs to make a few changes to the IRC. Currently, given the option, we can expect the owners of most existing dwellings and townhouses to use the IRC. But there are a few cases in which the IEBC does offer advantages over the IRC. The proposal therefore adds IEBC material to the IRC or points back to the IEBC to ensure there's no loss of advantage. The changes (detailed below) address four topics:

- Historic buildings. Since the IRC has no provisions for historic buildings (except for a highly specialized flood provision), the IEBC's allowances should apply.
- Design criteria for engineered design. Current IRC Section 301.1.3 points primarily to the IBC, so this proposal adds a reference to the IEBC to ensure those criteria remain available.
- Existing building materials. The IEBC makes sensible allowances for existing non-conforming materials, and if the IRC wants to be a functional code for existing buildings, it should have these allowances too.
- Additions and foundation alteration in flood hazard areas. The IRC triggers flood upgrades but does not provide the exceptions currently in the IEBC Work Area method.

Aren't there more allowances and waivers for existing buildings in the IEBC? Yes, there are, but we made an exhaustive review and (with a 12-page table) showed that all of them are moot in terms of providing an advantage over the IRC. Most of the IEBC's allowances and exemptions are for cases where the IEBC triggers upgrades outside the intended work area. Since the IRC rarely triggers upgrades in the first place, there's no need for the IEBC's allowances and exemptions. A few others (for example, the IRC does not explicitly allow a "blowout-design" water closet as the IEBC does) are expected to be within the easy discretion of the code official. So the four changes we make with this proposal should give current IEBC users all of the same advantages when they use the IRC instead.

The proposal makes the following specific changes:

In the IEBC:

101.2: The proposal edits this section to change the use of the IRC from an option to a requirement. For a given building, this simple change makes clear which code is to be used for existing building projects – the IEBC or the IRC. For a dwelling, townhouse, or accessory building within the scope of the exception, this is just a stronger version of the hope and expectation of the proponents who added this exception to the 2018 IEBC. For any other building, this edit changes nothing.

As shown, the proposal removes the word “Exception.” We were advised by ICC staff and BCAC that if the second sentence no longer presents an option to the user, it cannot be an “exception” by ICC rules. Therefore, the first sentence gets an “unless” clause at the end, and the second sentence becomes a direction to go to the IRC.

101.4: This edit is consistent with the revision to Section 101.2. The phrase “regardless of occupancy” pre-dates the exception to Section 101.2 and should have been removed when the exception was added to the 2018 IEBC. The replacement phrase, “within its scope,” refers to Section 101.2.

302.2: This proposal clearly directs any given existing building to either the IEBC or the IRC. Once that’s done, there is no need to require IEBC users to also comply with the IRC. (Indeed, because of the last sentence regarding conflicts, the reference to the IRC probably should have been removed when the exception was added to 2018 IEBC Section 101.2.) The IRC does not have a similar provision listing other codes, so no parallel proposal is needed for the IRC.

In the IRC:

R101.2: The only edit here is to add the “change of occupancy” project type to the list already in this section. This ensures that the IRC scope covers all five IEBC project types – addition (i.e. enlargement), alteration, repair, relocation (i.e. movement) and, now, change of occupancy. Current R101.2 already lists “use and occupancy,” so it’s possible that the current IRC already intends to cover *change* of occupancy, but the edit is recommended in any case for completeness and consistency. There is no doubt that the IRC does intend to cover change of occupancy, since that project type is already defined in IRC Chapter 2 and mentioned in Sections R102.7.1, R105.1, and R110.2. (A note about terminology: Even though this section already uses “use and occupancy,” the code defines “change of occupancy” to include a change in use. Otherwise, the current IRC is inconsistent. For example: current Section R102.7.1 refers to “use or occupancy;” R105.1 requires a permit to “change the occupancy;” R110.1 is titled “Use and change of occupancy” and uses “change of occupancy” as a defined term; R110.2 is titled “Change in use” and refers to “changes in the character or use;” R310.5 and R310.7.1 use “change of occupancy.” Therefore, we propose that the best term to use is the one already defined in the code, especially since that current definition already encompasses a change of use.)

R102.7.1 regarding historic buildings: The main change to this section is the addition of the final sentence, which ensures that historic buildings assigned to the IRC by this proposal will not lose any of the advantages they might have had by using the IEBC instead. In a future cycle, it might be advisable to copy applicable provisions from IEBC Chapter 12 into the IRC, but it’s not clear where they would go, since we would not want to add a whole page of substantive provisions to Chapter 1. Therefore, this is the best solution for this cycle. Reference back to the IEBC has precedent in the IRC. For example, see IRC Section R110.2, which sends the user back to IEBC Sections 506 and 507.

R102.7.1 miscellaneous edits: This proposal makes three other small edits to IRC Section R102.7.1:

- It changes the title of the section to match its content, which already mentions “relocation” and “change of occupancy” as potential projects. The term “work” is consistent with the IEBC definition of “work area” and is already used with the same meaning in IRC flood provisions (R105.3.1.1) and other Admin provisions (e.g. R105.2 Work exempt from permit).
- It adds “relocation” to the end of the second sentence, to match the start of the same sentence.
- It corrects a confusion about project types. An alteration alone does not change a building’s occupancy. An alteration and a change of occupancy are different project types.

R301.1.3: Adding the reference to the IEBC structural criteria ensures that when engineered design is required, the IRC user has access to the structural design criteria allowed by the IEBC, which include reduced seismic loads and ASCE 41. One could argue that this change is not needed because the current provision already relies on “accepted engineering practice,” but since the IBC is specifically listed as a design basis for new construction, it is appropriate to list the IEBC as well.

R301.1.5: Proposed new section R301.1.5 and its subsections ensure that the IRC user has access to these basic allowances from IEBC Section 302, which allow for existing materials and accommodate combinations of existing and new materials. The IEBC text has been modified only slightly to suit the IRC, replacing “code official” with “building official;” replacing “IBC” or “code for new construction” with “this code;” and changing “design criteria” to just “criteria.”

R301.1.5.1: This provision is basic to the IEBC and to any code that intends to function as a code for existing buildings. It is consistent with, but more explicit than, the “unless otherwise stated” clause of IRC Section R102.7.1. (Note: This provision refers to the term *unsafe*, which is defined in the IEBC. By IRC Section 201.3, the IRC incorporates the IEBC’s definitions by reference, so it does not need to be added to the IRC with this

proposal.)

R301.1.5.2: This provision allows repairs and alterations to match the existing building conditions, with reasonable limits. (Note: The exception to IEBC Section 402.1 allows glass block, louvers, and jalousies to be repaired with like materials. But that exception is not really necessary, since this more general provision goes even further, allowing like materials for both repairs and alterations.)

R301.1.5.3: This provision addresses the question of how to repair, replace, or improve isolated structural members within a structural system. It is approved wording from the IEBC and is consistent with the basic IRC provision in Section R102.7.1 that requires new elements to be as they would be for new construction without requiring the rest of the building – or in this case, the rest of the structural system – to satisfy those same criteria. The exception goes even further, accommodating standards like ASCE 41, which would sometimes allow even the new members to be sized and detailed differently.

R322.1.11 and R322.1.12: These added provisions ensure that the IRC user has access to the more nuanced provisions for additions and foundation alterations in the IEBC Work Area method.

AJ102.6: This edit removes the allowance in Appendix J (an optional appendix) to use the IEBC. Since this proposal would send buildings from the IEBC to the IRC, this allowance in Appendix J is a circular reference, so it needs to be removed.

Finally, we have provided a note to ICC staff about how to coordinate this proposal with other proposals that might relocate certain IRC sections addressed here.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. Currently, IEBC Section 101.2 allows the user to use either the IEBC or the IRC for an existing dwelling or townhouse. Depending on the nature of the project, there are cases where the IEBC is probably cheaper (because it has nuanced provisions and allowances for existing materials) and there are other cases where the IRC is probably cheaper (because it has essentially no structural upgrade triggers outside flood hazard areas). This proposal would eliminate the option and require the IRC -- but it also adds provisions to the IRC that preserve any of the cost-saving advantages of the IEBC. Therefore, any project that would currently opt to use the IEBC will have **no change in construction cost** by using the IRC. But any project that would currently opt to use the IRC **will have a lower cost** because it will now have access to both the IRC advantages and the IEBC advantages. In no case would construction cost increase. Beyond construction cost, as noted in the Reason Statement, this proposal is expected to **reduce overall project and regulation costs by simplifying the compliance path** and removing the need for amendments to sort out the current options.

Staff Analysis: The scope and intent of the I-codes is subject to the approval of the ICC Board of Directors.

RB3-22

IRC: SECTION 202 (New), SECTION 202, R101.2, R101.2.1 (New), R101.2.2 (New), R102.7.2 (New), R311.1, R403.1.4.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Add new definition as follows:

ACCESSORY BUILDING. A secondary building detached from, and located on the same lot as a one- or two-family dwelling featuring a roof assembly and more than 50 percent enclosed exterior walls. Examples include garages, storage buildings, workshops, boat houses, treehouses, and similar structures.

Revise as follows:

[RB] ACCESSORY STRUCTURE. A structure that is accessory to and incidental to that of the *dwelling(s)* and that is located on the same lot and is not an *accessory building*. Examples of accessory structures are carports, fencing, decks, gazebos, arbors, retaining walls, barbeque pits, detached chimneys, playground equipment, yard art, docks, piers, etc.

[RB] BUILDING. Any one- or two-family dwelling or *townhouse*, or portion thereof, used or intended to be used for human habitation, for living, sleeping, cooking or eating purposes, or any combination thereof, or any *accessory building* or *accessory structure*. For the definition applicable in Chapter 11, see Section N1101.6.

[RB] STRUCTURE. That which is built or constructed.

Revise as follows:

R101.2 Scope. The provisions of this code shall apply to the construction, *alteration*, movement, enlargement, replacement, *repair*, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and *townhouses* not more than three stories above *grade plane* in height with a separate means of egress, ~~and~~ their *accessory buildings* and *accessory structures* not more than three stories above *grade plane* in height.

Exception: The following shall be permitted to be constructed in accordance with this code where provided with an automatic sprinkler system complying with Section P2904:

1. Live/work units located in townhouses and complying with the requirements of Section 508.5 of the International Building Code.
2. Owner-occupied *lodging houses* with five or fewer guestrooms.
3. A care facility with five or fewer persons receiving custodial care within a *dwelling unit*.
4. A care facility with five or fewer persons receiving medical care within a *dwelling unit*.
5. A care facility for five or fewer persons receiving care that are within a single-family dwelling.

Add new text as follows:

R101.2.1 Accessory buildings. *Accessory buildings* with any dimension greater than 12 feet (3658 mm) shall meet the provisions of this code.

R101.2.2 Accessory structures. The following *accessory structures* shall meet the provisions of this code:

1. Decks, see Chapter 3 and Section R507.
2. Gazebos.
3. Retaining walls, see Section R404.4.
4. Detached masonry chimneys located less than 10 feet (3048 m) from other buildings or lot lines.
5. Swimming pools and spas, see Section R327.
6. Detached carports, see Section R309.2.

Exception: Portable, lightweight carports not exceeding 400 square feet (37 m²) or 12 feet (3658 mm) mean roof height.

R102.7 Existing structures. The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the *International Property Maintenance Code* or the *International Fire Code*, or as is deemed necessary by the *building official* for the general safety and welfare of the occupants and the public.

R102.7.1 Additions, alterations or repairs. *Additions, alterations* or repairs to any structure shall conform to the requirements for a new structure without requiring the existing structure to comply with the requirements of this code, unless otherwise stated. *Additions, alterations, repairs* and relocations shall not cause an existing structure to become less compliant with the provisions of this code than the existing building or structure was prior to the *addition, alteration* or *repair*. An existing building together with its *additions* shall comply with the height limits of this code. Where the *alteration* causes the use or occupancy to be changed to one not within the scope of this code, the provisions of the *International Existing Building Code* shall apply.

Add new text as follows:

R102.7.2 Change of occupancy. Prior to a *change of occupancy* for a *building, structure, accessory building* or *accessory structure*, the *owner* or the owner's authorized agent, shall first make application to the *building official* and obtain the required permits.

Revise as follows:

R311.1 Means of egress. *Dwellings, accessory buildings* larger than 400 square feet (37m²), and *accessory buildings* larger than one-story in height shall be provided with a means of egress in accordance with this section. The means of egress shall provide a continuous and unobstructed path of vertical and horizontal egress travel from all portions of the *structure dwelling* to the required egress door without requiring travel through a garage. The required egress door shall open directly into a *public way* or to a *yard* or court that opens to a *public way*.

Exception: The means of egress in an *accessory building* that does not include a *dwelling unit* shall be permitted to be through a garage.

R403.1.4.1 Frost protection. Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extended below the frost line specified in Table R301.2.
2. Constructed in accordance with Section R403.3.
3. Constructed in accordance with ASCE 32.
4. Erected on solid rock.

Footings shall not bear on frozen soil unless the frozen condition is permanent.

Exceptions:

1. Protection of free-standing *accessory buildings or accessory structures* with an area of 600 square feet (56 m²) or less, of *light-frame construction*, with an eave height of 10 feet (3048 mm) or less shall not be required.
2. Protection of free-standing *accessory buildings or accessory structures* with an area of 400 square feet (37 m²) or less, of other than *light-frame construction*, with an eave height of 10 feet (3048 mm) or less shall not be required.
3. Decks not supported by a dwelling need not be provided with footings that extend below the frost line.

Reason: The ICC Building Code Action Committee was requested to review the existing code language pertaining to the means of egress criteria applicable to accessory buildings and accessory structures. While accessory buildings and accessory structures are often considered as subordinate, secondary, and incidental to the main building on a lot, design professionals are increasingly tasked with designing oversized garages, barns, workshops, and similar spaces whose size may be comparable to the main dwelling. The proposed language is modeled on amendments adopted and promulgated by the State of North Carolina in their 2018 Residential Code with some refinement / reformatting for clarity.

The additional language to Chapter 1:

- Establishes that any *accessory building* with a dimension larger than 12 feet (3658 mm) is subject to the same design criteria as a *building*. Those with smaller dimensions (effectively 144 ft² or less) would not be subject to the IRC, but solely to local zoning ordinances or by-laws.
- Provides guidance for the design of *accessory structures*.
- Further clarifies that a prospective *change of use* for any type of building or structure on a lot is subject to review and permitting by the Authority Having Jurisdiction.

The revisions to Chapter 2 definitions:

- Create a distinction between an *accessory building* and an *accessory structure* with examples provided for clarity.
- Eliminates the undefined language in the existing definition of an *accessory structure* regarding what constitutes "incidental" and reframes it as secondary.

- Makes an editorial addition to the definition of a *building* for consistency with the other definitions.

The revisions to Chapter 3:

- Clarify that *accessory buildings* exceeding certain area and height dimensions shall comply with the means of egress requirements expected in a *building*.
 - o 400 square feet (37 m²) facilitates a 20'-0" by 20'-0" detached two-car garage without triggering additional means of egress requirements.
 - o The single-story requirement coincides with concerns regarding the need for *Emergency Escape and Rescue Openings* (EERO) per R310.1 which apply to *basements*, *habitable attics*, and sleeping rooms.

§ Accessory buildings rarely include a basement.

§ Per the Chapter 2 definition, a habitable attic may be finished or unfinished, therefore an *accessory building* with a fixed stair to an attic / loft area would be required to provide an EERO.

§ If a carriage house or similar *accessory building* features a *dwelling unit* or sleeping room, it would require an EERO.

- Acknowledge via an Exception that if an *accessory building* does not include a *dwelling unit*, it is reasonable to allow the path of egress travel to go through a garage.

The additional language to Chapter 4:

- Insofar as free-standing accessory structures already have two exceptions pertaining to footing frost protection, the language is adjusted to include both accessory building and accessory structures in recognition of the new / revised definitions.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will increase the cost of construction

This proposal will increase the cost of construction associated with the design of larger accessory buildings. In scenarios where a code interpretation may previously have allowed an accessory building to not meet the design criteria of Chapter 3 (including EERO and Means of Egress), henceforth said accessory buildings would be so required.

Staff Analysis: The scope and intent of the I-codes is subject to the approval of the ICC Board of Directors.

RB4-22

IRC: R101.2

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

R101.2 Scope. The provisions of this code shall apply to the construction, *alteration*, movement, enlargement, replacement, *repair*, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and *townhouses* not more than three stories above *grade plane* in height with a separate means of egress and their *accessory structures* not more than three stories above *grade plane* in height.

Exception: The following uses shall be permitted ~~to be constructed in accordance with this code~~ where located within a dwelling unit that is provided with an automatic sprinkler system complying with Section P2904:

1. Live/work units ~~located in townhouses and~~ complying with the requirements of Section 508.5 of the International Building Code.
2. Owner-occupied *lodging houses* with five or fewer guestrooms.
3. A care facility with five or fewer persons receiving custodial care ~~within a dwelling unit.~~
4. A care facility with five or fewer persons receiving medical care ~~within a dwelling unit.~~
5. A day care facility for five or fewer persons receiving care that are ~~within a single family dwelling.~~

Reason: The intent of this proposal is to clarify the permitted uses of the scope within dwelling units and constructed in accordance with the IRC, by removing repeated and redundant language in each of the exceptions (“within a dwelling unit”) and placing that in the main body of the exception. The revisions are editorial and for clarification with no technical changes included.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. The proposed changes are only editorial. This clarification of scope for IRC has no technical changes.

Staff Analysis: The scope and intent of the I-codes is subject to the approval of the ICC Board of Directors.

RB5-22

IRC: R101.2

Proponents: Stephen Thomas, representing Colorado Chapter ICC (sthomas@coloradocode.net)

2021 International Residential Code

Revise as follows:

R101.2 Scope. The provisions of this code shall apply to the construction, *alteration*, movement, enlargement, replacement, *repair*, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and *townhouses* not more than three stories above *grade plane* in height with a separate means of egress and their *accessory structures* not more than three stories above *grade plane* in height.

Exception: The following shall be permitted to be constructed in accordance with this code where provided with an automatic sprinkler system complying with Section P2904:

1. Live/work units located in townhouses and complying with the requirements of Section 508.5 of the International Building Code.
2. Owner-occupied *lodging houses* with five or fewer guestrooms.
3. A care facility with five or fewer persons receiving custodial care within a *dwelling unit*.
4. A care facility with five or fewer persons receiving medical care within a *dwelling unit*.
5. A day care facility for five or fewer ~~persons~~ children receiving care ~~that are~~ within a ~~single-family~~ dwelling unit.

Reason: This proposal is designed to provide consistent language between the IBC and the IRC regarding small day care facilities. IBC Section 305.2.3 permits a day care facility within a dwelling unit to comply with the IRC where there are five or fewer children receiving day care. However, there is no scoping in the IRC for this type of use. The cross references were added in the 2018 IBC but we missed the day care provision and just made a general comment for persons receiving care. We no longer need that language since we are addressing each type of care that the IBC permits to comply with the IRC in the different uses in the exception.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This change is a clarification and does not change any technical provisions.

Staff Analysis: The scope and intent of the I-codes is subject to the approval of the ICC Board of Directors.

RB6-22

IRC: R101.3

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

R101.3 Purpose. The purpose of this code is to establish minimum requirements to provide a reasonable level of safety, health and general welfare through affordability, structural strength, means of egress, stability, sanitation, light and ventilation, energy conservation ~~and safety to life~~ providing a reasonable level of life safety and property protection from fire and other hazards and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

Reason: The purpose of this proposal is for consistency in language for the sections related to the purpose of the codes throughout the ICC family of codes. This would be consistent with IFC, IBC, IEBC, ISPC, and IZC – which were passed with ADM10-19. The change in the title reflects the language in the first sentence. The IRC code development committee objected to the proposal last cycle because it included “explosions”; which has been removed. The revision is for consistency with “providing a reasonable level of life safety and property protection”.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This change is for coordination across codes for the purpose statements and does not change any technical requirements.

RB7-22

IRC: R102.7.1, R102.7.2 (New), SECTION 202, SECTION 202 (New), CHAPTER 44 (New), APPENDIX AJ

Proponents: Sue Coffman, representing Washington Association of Building Officials Technical Code Development Committee (sue.coffman@cityoftacoma.org); Hoyt Jeter, representing WABO TCD (hjeter@cityoftacoma.org); Micah Chappell, representing Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2021 International Residential Code

Revise as follows:

R102.7.1 Additions, alterations or repairs or relocations. ~~Additions, alterations or repairs~~ to any structure shall conform to the requirements for a new structure without requiring the existing structure to comply with the requirements of this code, unless otherwise stated. ~~Additions, alterations, repairs~~ and relocations shall not cause an existing structure to become less compliant with the provisions of this code than the existing building or structure was prior to the ~~addition, alteration or repair or relocation~~. An existing building together with its ~~additions~~ shall comply with the height limits of this code. ~~Where the alteration causes the use or occupancy to be changed to one not within the scope of this code, the provisions of the International Existing Building Code shall apply.~~

Add new text as follows:

R102.7.2 Repairs, renovations, alterations, or reconstructions. Repairs, renovations, alterations, or reconstructions shall conform to the requirements of the provisions of Chapter 44. Where the renovation, alteration, or reconstruction causes the use or occupancy to be changed to one not within the scope of this code, the provisions of the International Existing Building Code shall apply.

Revise as follows:

[RB] ALTERATION. Any construction, reconfiguration, retrofit or renovation to an existing structure other than *repair* or *addition* that requires a *permit*. Also, a change in a building, electrical, gas, mechanical or plumbing system that involves ~~an~~ a reconfiguration or extension, addition, installation, or change to the equipment or arrangement, type or purpose of the original installation that requires a *permit*. For the definition applicable in Chapter 11, see Section N1101.6.

Add new definition as follows:

CATEGORIES OF WORK. The nature and extent of construction work undertaken in an existing building, which include repair, renovation, alteration, and reconstruction.

DANGEROUS. Where the stresses in any member; the condition of the building, or any of its components or elements or attachments; or other condition that results in an overload exceeding 150 percent of the stress allowed for the member or material in this code.

MATERIALS AND METHODS REQUIREMENTS. Those requirements in this code that specify material standards; details of installation and connection; joints, penetrations; and continuity of any element, component or system in the building. The required quantity, fire resistance, flame spread, acoustic or thermal performance, or other performance attribute is specifically excluded from materials and methods requirements.

RECONSTRUCTION. The reconfiguration of a space that affects an exit, a renovation or alteration where the work area is not permitted to be occupied because existing means-of-egress and fire protection systems, or their equivalent, are not in place or continuously maintained; or there are extensive alterations.

REHABILITATION. Any repair, renovation, alteration or reconstruction work undertaken in an existing building.

RENOVATION. The change, strengthening or addition of load-bearing elements; or the refinishing, replacement, bracing, strengthening, upgrading or extensive repair of existing materials, elements, components, equipment or fixtures. Renovation does not involve reconfiguration of spaces. Interior and exterior painting are considered refinishing for the purposes of this definition, and are not renovation.

Revise as follows:

[RB] REPAIR. The reconstruction, replacement, patching, restoration, minor replacement, or renewal of any part materials, elements, components, equipment, or fixtures of an existing building for the purpose of its maintenance maintaining those materials, elements, components, equipment, or fixtures in good or sound condition, or to correct damage.

For the definition applicable in Chapter 11, see Section N1101.6.

Add new definition as follows:

WORK AREA. That portion of a building affected by any renovation, alteration or reconstruction work as initially intended by the owner and indicated as such in the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed, and portions of the building where work not initially intended by the owner is specifically required by the provisions for the renovation, alteration or reconstruction.

Add new text as follows:

CHAPTER 44 **EXISTING BUILDINGS AND STRUCTURES**

SECTION R4401 **SCOPE**

R4401.1 General. The specific provisions in this chapter shall apply to the repair, renovation, alteration, and reconstruction of existing buildings and structures. These standards shall apply where construction does not fully comply with construction standards in this code for new construction.

SECTION R4402 **CATEGORIES OF WORK**

R4402.1 General. Work in existing buildings and structures shall be categorized as repair, renovation, alteration, and reconstruction, and comply with the requirements in this chapter.

Work of more than one category shall be part of a single work project and related work permitted within a 12-month period shall be considered a single work project. Where a project includes one category of work in one building area and another category of work in a separate and unrelated area of the building, each project area shall comply with the requirements of the respective category of work. Where a project with more than one category of work is performed in the same area or in related areas of the building, the project shall comply with the requirements of the more stringent category of work.

SECTION R4403 **COMPLIANCE**

R4403.1 General. Regardless of the category of work being performed, the work shall not cause the structure to become unsafe or adversely affect the performance of the building; shall not cause an existing mechanical or plumbing system to become unsafe, hazardous, insanitary or overloaded; and unless expressly permitted by these provisions, shall not make the building any less compliant with this code or to any previously approved alternative arrangements than it was before the work was undertaken.

R4403.2 Requirements by category of work. Repairs shall conform with the requirements in Section R4405. Renovations shall conform to the requirements of Section R4406. Alterations shall conform to the requirements of Section 4407 and the requirements for renovations. Reconstructions shall conform to the requirements of Section R4408 and the requirements of alterations and renovations.

R4403.3 Smoke alarms. Regardless of the category of work, smoke alarms shall be provided where required by Section R314.2.2.

R4403.4 Replacement windows. Regardless of the category of work, where an existing window, including the sash and glazed portion, or safety glazing is replaced, the replacement window or safety glazing shall comply with the requirements of Sections R4403.4.1 through R4403.4.3, as applicable.

R4403.4.1 Energy efficiency. Replacement windows shall comply with the requirements of Chapter 11.

R4403.4.2 Safety glazing. Replacement glazing in hazardous locations shall comply with the safety glazing requirements of Section R308.

R4403.4.3 Replacement windows for emergency escape and rescue openings. Replacement windows for emergency escape and rescue openings shall comply with Section R310.5.

4403.4.4 Window control devices. Window opening control devices and fall prevention devices shall be installed compliant with the requirements in R312.2 where all of the following apply to the replacement window:

1. The window is operable.
2. One of the following applies:
 - 2.1 The window replacement includes replacement of the sash and the frame.
 - 2.2. The window replacement includes the sash only when the existing frame remains.
3. The bottom of the clear opening of the window opening is at a height less than 24 inches (610 mm) above the finished floor.
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere where the window is in its largest opened position.
5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

R4403.5 Flood hazard areas. Work performed in existing buildings located in a flood hazard area as established by Table R301.2(1) shall be

subject to the provisions of Section R105.3.1.1.

R4403.6 Features exceeding code requirements. Elements, components and systems of existing buildings with features that exceed the requirements of this code for new construction, and are not otherwise required as part of approved alternative arrangements or deemed by the building official to be required to balance other building elements not complying with this code for new construction, shall not be prevented by these provisions from being modified as long as they remain in compliance with the applicable requirements for new construction.

SECTION R4404 **EVALUATION OF AN EXISTING BUILDING**

R4404.1 General. The building official shall have authority to require an existing building to be investigated and evaluated by a registered design professional in the case of proposed reconstruction of any portion of a building. The evaluation shall determine the existence of any potential nonconformities to these provisions, and shall provide a basis for determining the impact of the proposed changes on the performance of the building. The evaluation shall use the following sources of information, as applicable:

1. Available documentation of the existing building.
 - 1.1. Field surveys.
 - 1.2. Tests (nondestructive and destructive).
 - 1.3. Laboratory analysis.

Exception: Detached one- or two-family dwellings that are not irregular buildings under Section R301.2.2.6 and are not undergoing and extensive reconstruction shall not be required to be evaluated.

SECTION R4405 **REPAIRS**

R4405.1 Materials and methods. Except as otherwise required herein, repairs shall be done using like materials or methods permitted by this code for new construction.

R4405.1.1 Hazardous materials. Hazardous materials no longer permitted, such as asbestos and lead-based paint, shall not be used.

R4405.1.2 Plumbing materials and supplies. The following plumbing materials and supplies shall not be used:

1. All-purpose solvent cement, unless listed for the specific application.
2. Flexible traps and tailpieces, unless listed for the specific application.
3. Solder having more than 0.2-percent lead in the repair of potable water systems.

R4405.2 Water closets. Where any water closet is replaced with a newly manufactured water closet, the replacement water closet shall comply with the requirements of Section P2903.2.

R4405.3 Electrical. Repair or replacement of existing electrical wiring and equipment undergoing repair with like material shall be permitted.

Exceptions:

1. Replacement of electrical receptacles shall comply with the requirements of Chapters 34 through 43.
2. Plug fuses of the Edison-base type shall be used for replacements only where there is not evidence of overfusing or tampering in accordance with the applicable requirements of Chapters 34 through 43.
3. For replacement of nongrounding-type receptacles with grounding-type receptacles and for branch circuits that do not have an equipment grounding conductor in the branch circuitry, the grounding conductor of a grounding-type receptacle outlet shall be permitted to be grounded to any accessible point on the grounding electrode system, or to any accessible point on the grounding electrode conductor, as allowed and described in Chapters 34 through 43.

R4405.4 Structural. The minimum design loads for the structure shall be the loads applicable at the time the building was constructed, provided that a dangerous condition is not created. Structural elements that are uncovered during the course of the alteration and that are found to be unsound or dangerous shall be made to comply with the applicable requirements of this code.

SECTION R4406 **RENOVATIONS**

R4406.1 Materials and methods. Except as otherwise required herein, renovations shall comply with the materials and methods requirements of

this code for new construction.

R4406.2 Door and window dimensions. Minor reductions in the clear opening dimensions of replacement doors and windows that result from the use of different materials shall be allowed, whether or not they are permitted by this code.

R4406.3 Interior finish. Wood paneling and textile wall coverings used as an interior finish shall comply with the flame spread requirements of Section R302.9.

R4406.4 Structural. Unreinforced masonry buildings located in Seismic Design Category D2 or E shall have parapet bracing and wall anchors installed at the roofline whenever a reroofing permit is issued. Such parapet bracing and wall anchors shall be of an approved design.

SECTION R4407 **ALTERATIONS**

R4407.1 Newly constructed elements. Newly constructed elements, components and systems shall comply with the requirements of this code for new construction.

Exceptions:

1. Added operable windows are not required to comply with the light and ventilation requirements of Section R303.
2. Newly installed electrical equipment shall comply with the requirements of Section 4508.5

R4407.2 Nonconformities. Alterations shall not increase the extent of noncompliance with the requirements of Section 4408 or create nonconformity to those requirements that did not previously exist.

R4407.3 Extensive alterations. Where the total area of all of the work areas included in an *alteration* exceeds 50 percent of the area of the dwelling unit, the work shall be considered to be a reconstruction and shall comply with the requirements of Section 4408.

Exception: Work areas in which the alteration work is exclusively plumbing, mechanical or electrical shall not be included in the computation of the total area of all work areas.

R4407.4 Structural. The minimum design loads for the structure shall be the loads applicable at the time the building was constructed, provided that a dangerous condition is not created. Structural elements that are uncovered during the course of the alteration and that are found to be unsound or dangerous shall be made to comply with the applicable requirements of this code for new construction.

R4407.5 Electrical equipment and wiring. Electrical equipment and wiring in alterations shall comply with Sections R4407.5.1 through R4407.5.5.

R4407.5.1 Materials and methods. Newly installed electrical equipment and wiring relating to work done in any work area shall comply with the materials and methods requirements of Chapters 34 through 43.

Exception: Electrical equipment and wiring in newly installed partitions and ceilings shall comply with the applicable requirements of Chapters 34 through 43.

R4407.5.2 Electrical service. Service to the dwelling unit shall not be less than 100 ampere, three-wire capacity and service equipment shall be dead front having no live parts exposed that could allow accidental contact. Type "S" fuses shall be installed where fused equipment is used.

Exception: Existing service of 60 ampere, three-wire capacity, and feeders of 30 ampere or larger two- or three-wire capacity shall be accepted if adequate for the electrical load being served.

R4407.5.3 Additional electrical requirements. Where the work area includes any of the following areas within a dwelling unit, the requirements of Sections R4407.5.3.1 through R4407.5.3.5 shall apply.

R4407.5.3.1 Enclosed areas. Enclosed areas other than closets, kitchens, basements, garages, hallways, laundry areas and bathrooms shall have not less than two duplex receptacle outlets, or one duplex receptacle outlet and one ceiling- or wall-type lighting outlet.

R4407.5.3.2 Kitchen and laundry areas. Kitchen areas shall have not less than two duplex receptacle outlets. Laundry areas shall have not less than one duplex receptacle outlet located near the laundry equipment and installed on an independent circuit.

R4407.5.3.3 Ground-fault circuit interruption. Ground-fault circuit interruption shall be provided on newly installed receptacle outlets where required by Chapters 34 through 43.

R4407.5.3.4 Lighting outlets. Not less than one lighting outlet shall be provided in every bathroom, hallway, stairway, attached garage and

detached garage with electric power to illuminate outdoor entrances and exits, and in utility rooms and basements where these spaces are used for storage or contain equipment requiring service.

R4407.5.3.5 Clearance. Clearance for electrical service equipment shall be provided in accordance with Chapters 34 through 43.

R4407.6 Ventilation. Reconfigured spaces intended for occupancy and spaces converted to habitable or occupiable space in any work area shall be provided with ventilation in accordance with Section R303.

R4407.7 Ceiling height. Habitable spaces created in existing basements shall have ceiling heights of not less than 6 foot 8 inches (2032mm), except that the ceiling height at obstructions shall be not less than 6 foot 4 inches (1930 mm) from the basement or attic floor. Existing finished ceiling heights in nonhabitable basements shall not be reduced.

R4407.8 Stairs. Except as noted otherwise herein, stairs shall comply with the requirements of Section R311.

R4407.8.1 Stair width. Existing basement stairs and handrails not otherwise being altered or modified shall be permitted to maintain their current clear width at, above and below existing handrails.

R4407.8.2 Stair headroom. Headroom height on existing basement stairs being altered or modified shall not be reduced below the existing stairway finished headroom. Existing basement stairs not otherwise being altered shall be permitted to maintain the current finished headroom.

R4407.8.3 Stair landing. Landings serving existing basement stairs being altered or modified shall not be reduced below the existing stairway landing depth and width. Existing basement stairs not otherwise being altered shall be permitted to maintain the current landing depth and width.

SECTION R4408 **RECONSTRUCTION**

R4408.1 Materials and methods. Except as otherwise required herein, reconstruction shall be done using materials or methods permitted by this code for new construction.

R4408.2 Stairways. Stairways within the work area shall be provided with illumination in accordance with Section R303.6.

R4408.3 Handrails. Every required exit stairway that has four or more risers, is part of the means of egress for any work area, and does not have handrails, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails designed and installed in accordance with Section R311 for the full length of the run of steps on not less than one side.

R4408.4 Guards. Every open portion of a stair, landing or balcony that is more than 30 inches (762 mm) above the floor or grade below, is part of the egress path for any work area, and does not have guards, or in which the existing guards are judged to be in danger of collapsing, shall be provided with guards designed and installed in accordance with Section R312.

R4408.5 Wall and ceiling finish. The interior finish of walls and ceilings in any work area shall comply with the requirements of Section R302.9. Existing interior finish materials that do not comply with those requirements shall be removed or shall be treated with an approved fire-retardant coating in accordance with the manufacturer's instructions to secure compliance with the requirements of this section.

R4408.6 Separation walls. Where the work area is in an attached dwelling unit, walls separating dwelling units that are not continuous from the foundation to the underside of the roof sheathing shall be constructed to provide a continuous fire separation using construction materials consistent with the existing wall or complying with the requirements for new structures. Performance of work shall be required only on the side of the wall of the dwelling unit that is part of the work area.

Revise as follows:

APPENDIX AJ **EXISTING BUILDINGS AND STRUCTURES** **(Delete all of Appendix J)**

Reason: This proposed code change deletes Appendix Chapter J of the 2021 IRC and moves most of its provisions into the body of the IRC code as a new chapter 44. Definitions from the appendix chapter are also moved into the body of the code as new definitions, or modified if the definitions already existed in the body of the code.

While there are provisions for existing buildings in the IRC, they are scattered throughout different sections of the code and it is sometimes not clear when certain sections apply. There is also a need for clarity surrounding code standards for existing IRC buildings to provide an understanding of when the International Existing Building Code applies vs individual sections within the body of the code.

This proposal consolidates standards for alterations, renovations, reconstructions and repairs into a single chapter, which is referenced in a new section in Chapter R102.7.1. By moving code requirements for existing buildings into a separate chapter within the body of the code, there are distinct requirements that can be specifically applied to the variations options for modifying an existing IRC building, including repairs, renovations, alterations, and reconstructions. This is also contrasted with additions, to which only new code standards apply and the proposed code specifically addresses additions along with renovations in this section.

In addition to a need for consolidation and clarity of code requirements in the IRC, more reasonable standards are also needed for residential buildings that were built decades ago that potentially have windows, ceiling heights and stairs that don't comply with new code standards.

With many of these spaces potentially already being used for decades as habitable spaces by the homeowner who may not be familiar with building code requirements, the risk of allowing these spaces to be converted to legal habitable space is small. The ability to apply reasonable code standards with a reasonable level of safety gives the homeowner effective use these existing buildings without requiring major reconstruction such as raising the house above the foundation, or other expensive construction techniques that may not add any substantial level of safety to the use of the building.

These proposed provisions also increase the sustainability of our IRC building code because they allows reasonable re-use of buildings. The ability to add additional bedrooms or other habitable spaces to existing buildings enables the homeowner to maximize the use of their home within the same building footprint. This provides additional value to the home without the high cost of new construction.

Although the existing building standards in Appendix J are available as an option for any jurisdiction to adopt, it is a burden to many jurisdictions who have to petition their state building code councils or governing bodies to individually adopt it for their individual jurisdiction. Appendix chapters are therefore infrequently used and most jurisdictions, especially those without a lot capacity for code development, stick to the standard provisions of the state codes and do not adopt optional provisions such as Appendix J. There is a need for the model codes to take the leap and incorporate these requirements into the body of the code, which will therefore be adopted by the states and available to all jurisdictions.

Cost Impact: The code change proposal will decrease the cost of construction

More reasonable standards to allow for existing spaces to be compliant with code requirements will not require extensive costly alterations.

RB8-22

IRC: R102.7.1, R110.2

Proponents: Jonathan Siu, representing Washington Association of Building Officials Technical Code Development Committee; Micah Chappell, representing Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2021 International Residential Code

Revise as follows:

R102.7.1 Additions, alterations, change of use, or repairs. *Additions, alterations* or repairs to any structure shall conform to the requirements for a new structure without requiring the existing structure to comply with the requirements of this code, unless otherwise stated. *Additions, alterations, repairs and relocations* shall not cause an existing structure to become less compliant with the provisions of this code than the existing building or structure was prior to the *addition, alteration* or *repair*. ~~An existing building together with its additions shall comply with the height limits of this code. Where the alteration causes the use or occupancy to be changed to one not within the scope of this code, the provisions of the International Existing Building Code shall apply.~~ Where additions, alterations, or changes of use to an existing structure result in a use or occupancy, height, or means of egress outside the scope of this code, the building shall comply with the International Existing Building Code.

Delete without substitution:

~~**R110.2 Change in use.** Changes in the character or use of an existing structure shall not be made except as specified in Sections 506 and 507 of the International Existing Building Code.~~

Reason: The current code language for existing buildings only addresses two of the three items defining what buildings are within the scope of the IRC--height and use. It does not deal with independent means of egress. This proposal more comprehensively addresses all the changes that can take a building out of the scope of the IRC, and directly points the user to the IEBC for those buildings. This proposal also removes a conflict in the code.

In order to be within the scope of the IRC, buildings must comply with three conditions (R101.2):

- Use. The buildings must be one- or two-family dwellings, or townhouses. In addition to residential use, five special uses are allowed in these buildings.
- Height. Buildings must be three stories or less.
- Egress. The units must have separate (independent) means of egress. They are not allowed to share a stairway or an egress balcony.

The current provisions in the code address additions that make the height of the building non-compliant with the IRC (R102.7.1, third sentence), and alterations to the use or occupancy that make the use non-compliant with the code (R102.7.1, last sentence). However, the current text does not address changes of use that are proposed without any construction, and while they are rare, there are circumstances where alterations or additions to the building could combine means of egress for two or more of the units.

Regarding the means of egress, in Seattle, we saw at least one project that because of topography and lot configuration, was originally designed with an elevated egress balcony, shared by all the townhouse-style units, leading to the right of way. In order to keep the project within the scope of the IRC, the site was redesigned so that independent means of egress was provided from each unit, but the shared, elevated (no-longer-egress) balcony remained. Alterations to the site could make this balcony the only means of egress again, which would then take the building out of the scope of the IRC. This proposal clarifies that if such a change is made, the IEBC would govern code compliance.

We have proposed to add "change of use" to the section title and the text in order to cover the cases where there may be a desire to change the use of a space without doing any construction. "Alterations" will not cover that case, since the definition refers to "construction, retrofit, or renovation." "Retrofit" is only defined in two appendices in the IEBC, and in ANSI/APSP/ICC-7 (suction entrapment standard), but those definitions imply some sort of construction is occurring. Similarly, "renovation" is only defined in IRC Appendix J and the IZC, where the definitions also imply some sort of construction.

This proposal also changes the viewpoint of the provision. Rather than saying, "In order to stay in the IRC, here's what you do," it takes the approach of, "If you go outside of scope of the IRC, go instead to the IEBC." This is more direct than saying "the provisions of the IEBC shall apply."

We are proposing to delete Section R110.2 for three reasons:

1. Section R110.2 conflicts with the existing language in the last sentence in Section R102.7.1. R110.2 currently points the user to two provisions within the Prescriptive Method--Change of Use (IEBC 506) and Historic Buildings (IEBC 507). The current reference to the IEBC in R102.7.1 is more flexible, allowing use of all three methods (Prescriptive, Work Area, or Performance) at the owner's or designer's discretion. The generic reference to the IEBC in the revised R102.7.1 will also cover any historic building provisions.
2. Aside from being buried in an obscure location, this provision does not belong in a section for Certificates of Occupancy. It more appropriately belongs in the section dealing with existing buildings.
3. Section R110.2 only deals with changes of use/occupancy. As noted above, there are other provisions in the scope of the IRC

that are addressed by this proposal.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal is a clarification of the existing provisions, sending users to the governing code. This will not result in a change in the cost of construction under the IRC, since it only addresses alterations and additions that take the building out of the scope of the IRC.

RB10-22

IRC: SECTION R103, R103.1, R103.2, R103.3

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

SECTION R103 DEPARTMENT OF BUILDING SAFETY CODE COMPLIANCE AGENCY

R103.1 Creation of enforcement agency. ~~The department of building safety~~ ~~[INSERT NAME OF DEPARTMENT]~~ is hereby created and the official in charge thereof shall be known as the *building official*. The function of the agency shall be the implementation, administration and enforcement of the provisions of this code.

R103.2 Appointment. The *building official* shall be appointed by the chief appointing authority of the jurisdiction.

R103.3 Deputies. In accordance with the prescribed procedures of this *jurisdiction* and with the concurrence of the appointing authority, the *building official* shall have the authority to appoint a deputy *building official*, ~~the other~~ related technical officers, inspectors, ~~plan examiners~~ and other employees. Such employees shall have powers as delegated by the *building official*.

Reason: The purpose of this proposal is consistency through the family of codes for Enforcement Agency. During the 2018-2019 code development cycle, ADM 16-19 Parts 1 and III was approved for inclusion of this language in the IBC, IFC, IEBC, IPC, IMC, IFGC, IPMC, ISPSC, IPSDC, IGCC and IWUIC. BCAC is proposing this change again to the IRC to complete uniformity and consistency of language among all codes. A survey of several departments across the country showed that jurisdictions choose many different names. ADM 16-19 proposed to change the name of this section to “Code Compliance Agency” and add a fill in the blank for the adopting agency to choose a name specific to their jurisdiction. In addition to these changes, all three sub-sections were modified to use language that is common in a majority of the codes. Specifically, a sentence was added to the section “Creation of the Agency” to state the function of the agency. In the section titled “Appointment,” the term “chief appointing authority of the” was inserted before “jurisdiction.” This was intended to be more specific and in line with the language in the section titled “Deputies,” which uses the phrase “appointing authority.” This language was not intended to name a specific individual or group of individuals. It was intended to identify anyone within the jurisdiction who has the authority to make appointments or staffing decisions. This could be anyone from an elected official or a person or group of people who have been designated to make staffing decisions. The 2019 IRC committee also felt there was potential conflict with state and local laws. We believe it is incumbent on the jurisdiction adopting codes to make any modifications necessary to resolve conflicts that are specific for their locality.

The BCAC is working from the philosophy that ICC is a family of codes, so administrative requirements should be consistent across codes. Most administrative and enforcement matters are the same for any code. Those matters unique for a specific code remain unchanged. This is one of a series of proposals relating to technical, editorial and organizational changes proposed for the Administrative chapters (Chapter 1) in all of the I-Codes.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This is an editorial change that provides consistency between I-codes. This may be a reduction in the administrative costs for the building department by increasing options.

RB11-22

IRC: R104.2

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Residential Code

Add new text as follows:

R104.2.1 Listed compliance. Listings required by this code shall be based on a test standard or approved listing evaluation that is germane to the provision requiring the listing. Anything required by this code, or a reference standard, to be listed shall be installed in accordance with the listing and the manufacturer's instructions. Copies of the listing standard and manufacturer's instructions shall be made available to the building official upon request.

Reason: When the code requires something to be listed, the test standard used or the listing evaluation must be germane to the code provision that is requiring the listing. Additionally, the installation must be in accordance with the manufacturer's instructions and copies of the listing standard and manufacturer's instructions must be made available to the building official.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This only clarifies that when something is required to be listed, the test standard used or the listing evaluation must be germane to the code provision that is requiring the listing. As with any listing, the installation must be in accordance with the manufacturer's instructions and the building official must have access to the listing standard and manufacturer's instructions.

RB12-22

IRC: R104.11

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Residential Code

Revise as follows:

R104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code. The *building official* shall have the authority to approve an alternative material, design or method of construction upon application of the *owner* or the owner's authorized agent. The *building official* shall first find that the proposed alternative meets all of the following:

1. The alternative material, design or method of construction is satisfactory and complies with the intent of the provisions of this code, ~~and that~~
2. The the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in as it pertains to the following:
 - 2.1. Quality. quality,
 - 2.2. Strength. strength,
 - 2.3. Effectiveness. effectiveness,
 - 2.4. Fire fire-resistance,;
 - 2.5. Durability. durability, and
 - 2.6. Safety. safety

Compliance with the specific performance-based provisions of the International Codes shall be an alternative to the specific requirements of this code. Where the alternative material, design or method of construction is not *approved*, the *building official* shall respond in writing, stating the reasons why the alternative was not *approved*.

Reason: This section can be written more clearly as to the various criteria that must be met in order to be approved as an alternate material, design or method of construction. This will make it easier for the building official to make the necessary evaluation and decision. Should the alternate not be approved, it will also make it easier for the building official to cite the reasons for disapproval. There are no changes to the various requirements that the building official or fire code official must consider. During the last code cycle, this change was approved in the IBC and was well received by the committee and membership who agreed that it made it easier to read.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are no changes to the requirements in this section.

RB13-22

IRC: R104.11.2

Proponents: Manny Muniz, representing Representing self (mannymuniz.mm@gmail.com)

2021 International Residential Code

Add new text as follows:

R104.11.2 Research reports. Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from an approved agency accredited to evaluate or certify products. The alternative material, design or method of construction and product evaluated shall be within the scope of accreditation and the criteria used for the evaluation shall be referenced within the report.

Reason: It is sometimes difficult to determine the legitimacy of a research report. Agency accreditation is an excellent way to determine the legitimacy and reliability of research reports issued by such agencies. This is similar to R109.2 which authorizes the building official to accept reports from approved agencies, provided such agencies satisfy the requirement as to qualifications and reliability. The IBC, IEBC, IFC, IFGC, IMC, IPC, IPMC, IPSDC have provisions for the use of valid research reports as an aid to alternate approval. This will be valuable when the building official reviews a research report.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This new section does not require that a research report be submitted when requesting an alternate, only that when one is submitted to support a request for an alternate, the issuing agency be accredited to evaluate or certify products and that the alternative material, design or method of construction and product evaluated be within the scope of accreditation and the criteria used for the evaluation be referenced within the report.

RB45-22

IRC: R301.9 (New), R502.3, R802.4.1, R802.5

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Add new text as follows:

R301.9 Framing Member Splices. Splices in floor, ceiling, or roof framing members shall occur over vertical supports or shall be designed by a registered design professional in accordance with Section R301.1.3. Purlins, purlin braces, and collar ties shall not be considered a vertical support for determining splice locations.

Revise as follows:

R502.3 Allowable joist spans. Spans for floor joists shall be in accordance with Tables R502.3.1(1) and R502.3.1(2). For other grades and species and for other loading conditions, refer to the AWC STJR. Joist splices shall comply with Section R301.9.

R802.4.1 Rafter size. Rafters shall be sized based on the rafter spans in Tables R802.4.1(1) through R802.4.1(8). Rafter spans shall be measured along the horizontal projection of the rafter. For other grades and species and for other loading conditions, refer to the AWC STJR. Joist splices shall comply with Section R301.9.

R802.5 Ceiling joists. Ceiling joists shall be continuous across the structure or securely joined where they meet over interior partitions in accordance with Section R802.5.2.1. Ceiling joists shall be fastened to the top plate in accordance with Table R602.3(1). Rafter splices shall comply with Section R301.9.

Reason: This proposal adds language to address members spliced between bearing walls. The clear spans and loads provided in all IRC tables assume a continuous condition between supports. Although a continuous member can be achieved by splicing two members together, the splice must be properly designed to transfer forces across the spliced connection and avoid a hinge condition. Where splices have not been properly designed, members (especially rafters) have displayed visible out-of-plane deformation. In these situations, the members have required repair or replacement to stop and reverse the deformation process.

This proposal clarifies that framing member splices between bearing walls need to be engineered and references section R301.1.3. Engineered design.

“Where a building of otherwise conventional construction contains structural elements exceeding the limits of Section R301 or otherwise not conforming to this code, these elements shall be designed in accordance with accepted engineering practice. The extent of such design need only demonstrate compliance of nonconventional elements with other applicable provisions and shall be compatible with the performance of the conventional framed system. Engineered design in accordance with the International Building Code is permitted for buildings and structures, and parts thereof, included in the scope of this code.”

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal is a clarification change only; the intent is to clarify Rafter splices need to be engineered which is what required currently but it is not addressed in the code text.

RB51-22

IRC: TABLE R302.1(1), TABLE R302.1(2)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

TABLE R302.1(1) EXTERIOR WALLS

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E119, UL 263 or Section 703.3 of the International Building Code with exposure from both sides	0 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Projections	Not allowed	NA	< 2 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood ^{a, b}	≥ 2 feet to < 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Openings in walls	Not allowed	NA	< 3 feet
	25% maximum of wall area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet

For SI: 1 foot = 304.8 mm.

NA = Not Applicable.

- a. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.
- b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where ~~gable~~ vent openings are not installed in the overhang or in any gable end walls that are common to attic areas.

TABLE R302.1(2) EXTERIOR WALLS—DWELLINGS WITH FIRE SPRINKLERS

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour—tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code with exposure from the outside	0 feet
	Not fire-resistance rated	0 hours	3 feet ^a
Projections	Not allowed	NA	< 2 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood ^{b, c}	2 feet ^a
	Not fire-resistance rated	0 hours	3 feet
Openings in walls	Not allowed	NA	< 3 feet
	Unlimited	0 hours	3 feet ^a
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet ^a

For SI: 1 foot = 304.8 mm.

NA = Not Applicable.

- a. For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler system installed in accordance with Section P2904, the fire separation distance for exterior walls not fire-resistance rated and for fire-resistance-rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.
- b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.
- c. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where gable vent openings are not installed in the overhang or in any gable end walls that are common to attic areas.

Reason: The intent of this proposed code change is to address conditions where if there were no vents at the underside of the roof overhang, or in any gable end walls (both of which would allow fire to freely move into attic areas), then there should be no requirement to rate the underside of the overhang. This could be applied to gable, hip, and any other roof style overhangs. Where additional attic ventilation is required to make up for the loss of vents at overhangs where fire-separation distance is an issue in accordance with these tables and footnotes, additional vents could be added at the underside of eaves in other areas of the dwelling where fire-separation distance is not an issue, or at ridge vents.

This proposal change was submitted during the 2019 Group B code cycle but was disapproved. It was disapproved not based on the intent or principle, but on an editorial error to correlate the footnotes for both tables.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This code change is a clarification of current code requirements.

RB60-22

IRC: SECTION 202 (New), R302.3, R314.4

Proponents: Jeffrey Shapiro, representing Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Residential Code

Add new definition as follows:

ACCESSORY DWELLING UNIT (ADU). An additional, subordinate dwelling unit on the same lot, that is entirely within a dwelling unit, attached to a dwelling unit, or in a detached structure.

Revise as follows:

R302.3 Two-family dwellings. *Dwelling units* in two-family dwellings, including dwelling units with an attached accessory dwelling unit, shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code. Such separation shall be provided regardless of whether a *lot line* exists between the two *dwelling units* or not. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of $1/2$ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.
2. Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than $5/8$ -inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than $1/2$ -inch (12.7 mm) gypsum board or equivalent.
3. A fire-resistance rated separation is not required where one of the dwelling units is an accessory dwelling unit and the other is an owner-occupied dwelling unit.

R314.4 Interconnection. Where more than one smoke alarm is required to be installed within an individual *dwelling unit* in accordance with Section R314.3, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual *dwelling unit*. Where an owner-occupied dwelling unit and an accessory dwelling unit create a two-family dwelling without a fire separation in accordance with Section R302.3, alarm devices in both dwelling units shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in both dwelling units. Physical interconnection of smoke alarms shall not be required where *listed* wireless alarms are installed and all alarms sound upon activation of one alarm.

Reason: In Group A, Code Change Z1-21 added a new definition of Accessory Dwelling Unit, or ADU, with the apparent intent of formally recognizing what has become an increasingly common practice of adding additional dwelling unit(s) to a property or building that was originally intended and limited to function as a single family dwelling unit. The proliferation of ADUs in many jurisdictions as a means of increasing available housing has had an undiscussed consequence of often creating buildings that essentially constitute illegal two-family dwellings / duplexes, in that such buildings do not meet adopted IRC provisions for a two-family dwelling.

The trend essentially allows construction of a single-family dwelling, issuance of a certificate of occupancy, then subdividing the floorplan to provide an additional dwelling unit, completely circumventing the fire safety considerations in the IRC, particularly the requirement for a fire-rated separation. There is no logic behind requiring a building permitted as a two-family dwelling to provide a suitable fire barrier between units, but not requiring that separation for a building permitted as a one-family dwelling that immediately or thereafter adds an ADU. This proposal will return parity between the fire separation requirements for two-family dwellings and dwellings with an ADU. An exception is provided for ADUs in owner occupied housing because, like lodging houses these situations at least provide some level of on-site oversight of the ADU.

To those who might argue that "owner occupied" is not something that's enforceable under the IRC or otherwise, note that the concept of using this as a limitation is already baked into other portions of the IRC for lodging houses (see R101.2, Exception 2 and R320.1). The intent here is to simply duplicate that precedent for ADUs.

Cost Impact: The code change proposal will decrease the cost of construction

The code currently requires all two-family dwellings to have a fire separation between dwelling units, and there is currently no differentiation that applies to dwelling units with an added ADU. This proposal provides a limited reduction in the code requirements by allowing an ADU to be unseparated when the primary dwelling unit is owner-occupied, thereby reducing the cost of construction for such cases.

RB61-22

IRC: R302.3, R302.3.1 (New), R302.3.2 (New), R302.2.1

Proponents: Quyen Thai, representing Washington Association of Building Officials Technical Code Committee (qthai76@gmail.com); Micah Chappell, representing Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2021 International Residential Code

Revise as follows:

R302.3 Two-family dwellings. *Dwelling units* in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code constructed in accordance with Section R302.3.1 through R302.3.3. Such separation shall be provided regardless of whether a *lot line* exists between the two *dwelling units* or not. ~~Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.~~

Exceptions:

- ~~1. A fire-resistance rating of 1/2 hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.~~
- ~~2. Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than 5/8-inch (15.9 mm) Type-X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent.~~

Add new text as follows:

R302.3.1 Separation. *Dwelling units* in two-family *dwellings* shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E 119, UL 263 or Section 703.3 of the *International Building Code*.

Exception: A fire-resistance rating of 1/2 hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.

R302.3.2 Continuity. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the *exterior wall*, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exception: Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than 5/8-inch (15.9 mm) Type-X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent.

Revise as follows:

R302.3.3 R302.2.4 Supporting construction. Where floor assemblies are required to be fire-resistance rated by Section R302.3, the supporting construction of such assemblies shall have an equal or greater fire-resistance rating.

Reason: The intent of this change is to pull out the construction requirement of the common wall as a subsection to align with proper code location. There is already a construction subsection in R302.3.1 and this just creates another subsection that discusses the construction of the common wall. All three subsections are not new language to the code but rather a reorganization.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. There is no cost impact to this proposal because the language did not change. This is just a reorganization to create better readability.

RB62-22

IRC: R302.3, R302.3.2 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

R302.3 Two-family dwellings. *Dwelling units* in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code. Such separation shall be provided regardless of whether a *lot line* exists between the two *dwelling units* or not. ~~Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.~~

Exceptions:

1. A fire-resistance rating of $\frac{1}{2}$ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.
2. Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than $\frac{5}{8}$ -inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than $\frac{1}{2}$ -inch (12.7 mm) gypsum board or equivalent.

Add new text as follows:

R302.3.2 Continuity. The fire-resistance-rated floor/ceiling and wall assemblies separating dwelling units shall include extensions through and separating attached enclosed accessory structures. The fire-resistance rated assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Reason: This proposal aligns the rated assembly requirements for a two-family dwelling in R302.3 with the current requirements for townhouses in R302.2.3. Rated assembly extensions through and separating attached enclosed accessory structures are not currently addressed for two-family dwellings, which allows for the creation of a discontinuity in the rated barrier.

Individual dwelling units may be separated in a two-family dwelling by a horizontal floor assembly (stacked duplex) or the more traditional vertical wall assemblies. Where attached enclosed accessory structures project above a horizontal or vertical assembly, careful consideration is required in the planning and construction to extend the assembly through/around the accessory structure in order to maintain the rated assembly continuity. Therefore, this proposal adds a new sub-section, R302.3.2, for Continuity. The new 302.3.2 for Continuity includes the last sentence of R302.3 and the text required for townhouses to the two-family dwelling section since the need to maintain such separation is equally necessary for both building types.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will increase the cost of construction

This is a technical change to two-family dwellings, despite the fact that the original intent has always been for the separation assemblies to continue through two-family attached accessory structures. Depending on the layout, this may require a longer wall to separate the units.

RB63-22

IRC: R302.3, R302.3.1, R302.3.2 (New), R302.3.3 (New), R302.3.3.1 (New), R302.3.3.2 (New), R302.3.5 (New)

Proponents: Jeffrey Shapiro, representing Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Residential Code

Delete and substitute as follows:

R302.3 Two-family dwellings. *Dwelling units* in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code. Such separation shall be provided regardless of whether a *lot line* exists between the two *dwelling units* or not. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of $\frac{1}{2}$ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.
2. Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than $\frac{5}{8}$ -inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than $\frac{1}{2}$ -inch (12.7 mm) gypsum board or equivalent.

R302.3 Two-family dwellings. *Dwelling units* in two-family dwellings shall be separated from each other in accordance with Sections 302.3.1 through 302.3.5, regardless of whether a *lot line* exists between two *dwelling units*.

Add new text as follows:

R302.3.1 Dwelling unit separation. The two dwelling units shall be separated by fire-resistance rated assemblies that are vertical, horizontal, or a combination thereof.

R302.3.2 Fire-resistance rating. Vertical and horizontal assemblies separating dwelling units shall have a fire-resistance rating of 1-hour, or a fire-resistance rating of 1/2 hour in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904. Fire-resistance ratings shall be based on testing in accordance with ASTM E119 or UL 263, or an analytical method in accordance with Section 703.2.2 of the International Building Code.

R302.3.3 Continuity. Vertical and horizontal assemblies separating dwelling units shall be constructed in a manner that provides a continuous and complete separation between the dwelling units.

R302.3.3.1 Horizontal assemblies. Horizontal assemblies separating dwelling units shall extend to and be tight against exterior walls or vertical separation assemblies complying with Section 302.3.2.

R302.3.3.2 Vertical assemblies. Vertical assemblies separating dwelling units shall extend to and be tight against any combination of the following:

1. The foundation.
2. A horizontal assembly complying with Section 302.3.2
3. The underside of roof sheathing.
4. The ceiling beneath an uninhabitable attic, provided that the ceiling is constructed using not less than 5/8-inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the vertical assembly terminating at the ceiling, and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent.

Revise as follows:

R302.3.4 R302.3.4 Supporting construction. Where floor assemblies are required to be fire-resistance rated by Section R302.3, the supporting construction of such assemblies shall be supported by construction having an equal or greater fire-resistance rating.

Add new text as follows:

R302.3.5 Vertically stacked dwelling units. Where one dwelling unit in a two-family dwelling is located above the other and an automatic sprinkler system complying with Section P2904 is not provided in both dwelling units, both of the following shall apply:

1. Horizontal and vertical assemblies separating the dwelling units, including an interior stairway serving as the means of egress for the upper dwelling unit, shall be constructed in a manner that limits the transfer of smoke.

2. A notification appliance connected to smoke alarms in the other dwelling unit shall be provided in each dwelling unit.

Reason: This proposal accomplishes two things. First, it provides a cleanup and update of Section R302.3, including moving the exceptions to the main code text. Provisions have been reorganized and divided into subsections to more clearly delineate current requirements, and the section has been broadened to recognize that separations between dwelling units might not be limited to either a floor assembly or a wall assembly. The current text restricts horizontal assemblies to only include floors, as opposed to floor-ceiling or ceiling-only assemblies, and it fails to clearly recognize and accommodate that separations may involve a combination of vertical and horizontal elements, which always occurs if an interior stairway is used as the means of egress for the upper unit. Terminology in IBC Section 707.3.10 has been used as guidance for the proposed IRC text. Second, Section 302.3.5 has been added to recognize that stacked duplexes are inherently more hazardous than side-by-side duplexes, particularly with respect to the upper unit due to the tendency of smoke and flames to spread vertically, which increases the risk of charging the upper unit with smoke and cutting off the means of egress and the means of escape if/when fire vents through exterior doors or windows. Providing a smoke separation, in addition to the current requirement for a fire-rated separation, will delay smoke transmission to the upper unit. The proposed text related to construction of the smoke separation is derived from the IBC definition of "smoke partition," which establishes the performance requirement "...is constructed to limit the transfer of smoke."

Providing a remote sounder for the opposite dwelling unit will allow more escape time for occupants who are not in the unit of origin, recognizing that smoke alarms are designed to provide sufficient warning to escape an incipient fire but not necessarily a well-developed fire spreading from another part of the building. Additional warning is particularly important where: 1) The downstairs unit occupants are not home or are home but don't or are unable to warn the upstairs occupants, and 2) The upstairs unit is two stories tall, perhaps even with a habitable attic above, which increases escape distance and the associated escape time, particularly for individuals who may have difficulty rapidly traversing stairs or using a means of escape window that would be 3 or 4 stories above grade.

For disclosure, I am a consultant to NFSA, but this proposal is not submitted on NFSA's behalf and was not provided to NFSA prior to submittal. It is submitted as a personal proposal based on my personal interest in this topic.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. Technically, the IRC requires all buildings to be sprinklered, so this doesn't have a cost impact with respect to the model code. However, in jurisdictions that choose to amend the IRC by removing the sprinkler requirement, there would be a cost. Alternately, the increased flexibility provided for using additional types of separation assemblies and a combination of vertical and horizontal assemblies may provide a reduction in the cost of construction.

RB64-22

IRC: R302.3.2 (New), TABLE R302.3.2 (New), R302.3.2.1 (New), R302.3.2.2 (New), R302.3.2.3 (New)

Proponents: Quyen Thai, representing Washington Association of Building Officials Technical Code Committee (qthai76@gmail.com); Micah Chappell, representing Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2021 International Residential Code

Add new text as follows:

R302.3.2 Common accessory rooms. A common accessory room shall be separated as required by Table R302.3.2. Openings in a common accessory room shall comply with Section R302.3.2.1. Attachment of gypsum board shall comply with Table R702.3.5. The wall separation provisions of Table R302.3 shall not apply to common accessory room walls that are perpendicular to the adjacent dwelling unit wall.

TABLE R302.3.2 DWELLING-COMMON ACCESSORY ROOM SEPERATION

<u>SEPERATION</u>	<u>MATERIAL</u>
<u>From the dwelling units and attics</u>	<u>Not less than 1/2-inch gypsum board or equivalent applied to the accessory room side wall</u>
<u>From habitable rooms above or below the common accessory room</u>	<u>Not less than 5/8-inch Type X gypsum board or equivalent</u>
<u>Structures supporting floor/ceiling and wall assemblies used for separation required by this section</u>	<u>Not less than 1/2-inch gypsum board or equivalent</u>
<u>Common accessory rooms located less than 3 feet from a dwelling unit on the same lot</u>	<u>Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area</u>

For SI: 1 inch=25.4 m, 1 foot=304.8 mm

R302.3.2.1 Opening protection. Openings from a common accessory room or area directly into a room used for sleeping purposes shall not be permitted. Other openings between the shared common accessory room or area and dwelling units shall be equipped with solid wood doors not less than 1 3/8 inches in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches thick, or a fire door assembly with a 20-minute fire-protection rating, equipped with a self-closing or automatic-closing device.

R302.3.2.2 Duct penetration. Ducts penetrating the walls or ceilings separating the *dwelling* from the common accessory room shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other *approved* material and shall not have openings into the common accessory room.

R302.3.2.3 Other penetrations. Penetrations through the walls, ceiling, and floor level separation required in Section R302.3.2 shall be protected as required by Section R302.11, Item 4.

Reason: Designers are beginning to incorporate optional design common accessory rooms such as common laundry facilities and storage rooms that are connected to both dwelling units in their design. The IRC is currently silent on such a room but due to potential storage hazards as well as gas appliances of the washer/dryers and other appliances, there is a need to provide clear directions to protect the dwelling units from a shared common accessory space. The proposal is to treat these common rooms similar to garages and therefore, much of the proposed language draws from the dwelling-garage provision of the code.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. Since this is just a clarifying addition where the code is silent, several jurisdictions have already required the construction of the separation wall between habitable space and their accessory spaces. Therefore no increase in cost is noted.

RB65-22

IRC: R302.3.2 (New)

Proponents: Quyen Thai, representing Washington Association of Building Officials Technical Code Committee (qthai76@gmail.com); Micah Chappell, representing Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2021 International Residential Code

Add new text as follows:

R302.3.2 Opening Protection. Openings in the common fire resistance-rated wall assembly separating *dwelling units* shall be equipped with a fire door assembly with not less than a 45-minute fire-protection-rating.

Exception: A fire door assembly with a 20-minute fire-protection-rating is permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.

Reason: Currently the IRC is silent on when there are openings (doors) between units of a duplex. Some designers have begun designing duplexes with a door in the common fire-rated wall assembly to access both dwelling units. This code addition provides direction and clarity to both the designer and reviewer when this situation comes up to maintain the intended minimum fire-rating of the common wall assembly and remain consistent with the required 1-hour fire assembly separation between the two dwelling units. This requirement is also consistent with the required unit separation in the IBC.

With two-family dwellings being designed for flexibility, the use of doors between the dwelling units is becoming a common design feature. This proposal provides clarity for maintaining appropriate dwelling unit separation when an opening between dwelling units is desired and also aligns with the IBC requirements for openings in a fire partition. In addition, it clarifies that the only opening permitted within the common fire-resistance rated wall separating dwelling units is a door.

The residential and building code treats openings and penetrations separately. And all we're doing here is clarifying the requirements when a designer wants to incorporate a door opening into that common wall.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

There will not be any additional cost. This is a design option and not a specific requirement when and only when an opening is included in the design of the two-family dwelling units.

RB66-22

IRC: R302.3.2 (New)

Proponents: Chad Sievers, representing Department of State (chad.sievers@dos.ny.gov); Jeanne Rice, representing NYSDOS (jeanne.rice@dos.ny.gov)

2021 International Residential Code

Add new text as follows:

R302.3.2 Opening Protectives. Where there are openings in the fire-rated wall or floor assemblies required by Section R302.3 the opening shall have a fire-protection rating of 3/4 hour as determined by tests specified in Section 716 of the *International Building Code*. Doors shall be self-latching and equipped with a self-closing or automatic closing device.

Exception: Solid wood doors not less than 1-3/8 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1-3/8 inches (35mm) thick, or a door with a 20-minute fire protection rating shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904. Doors shall be self-latching.

Reason: The code is currently silent on openings between dwelling units in a two-family dwelling. This silence neither prohibits nor allows doorways between the units, leaving the code enforcement officer unsure of their requirements when one is proposed. Often the code enforcement officer must use personal discretion to decide what is appropriate. The wall between the dwelling units is required to have a one-hour fire protection rating period to ensure the separation between the dwellings is not compromised.

There are several occasions when door openings between dwelling units of two-family dwellings are appropriate. The first instance is most common: the dwelling units share a common foyer for their entrance, either side-by-side unit entrances on a single story with a shared vestibule entrance; or a two-story building with a vestibule entrance on the first floor, an entrance to the first floor unit on the ground floor, and an entrance to the second floor unit at the top of a stairway that is within the vestibule. Another instance is the addition of a full mother-in-law apartment to a single-family dwelling unit. Less commonly, a single-family dwelling may be converted to a two-family dwelling with the option to convert the home back to a single-family dwelling depending on the occupant. Finally, other situations can arise where the occupants, typically extended families, may wish to share living space in a manner similar to the mother-in-law apartment situation but with a more traditional two-family home.

To stay consistent with the code, the language is mirrored after R302.3 including the leniency for sprinklers. The fire protection ratings were referenced from Table 716.1(2) of the IBC for "Other Fire Partitions" and language was utilized from R302.5 to maintain the prescriptive nature of the code and the allowance of "practical solutions". A requirement for a self-closing mechanism was not included because

Cost Impact: The code change proposal will increase the cost of construction

The cost of a two-family home may slightly increase, but only when a door between the two units is installed, as the door is now specifically required to be a fire-rated door. This code change will not have any impact on most two-family dwellings because and openings are not typically installed within the fire-rated wall assembly between dwelling units.

RB85-22

IRC: R308.6.5

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

R308.6.5 Screens not required. Screens shall not be required where laminated glass complying with Item 1 of Section R308.6.2 is used as single glazing or the inboard pane in multiple glazing. Screens shall not be required where fully tempered glass is used as single glazing or the inboard pane in multiple glazing and either of the following conditions is met:

1. The glass area is 16 square feet (1.49 m²) or less; the highest point of glass is not more than 12 feet (3658 mm) above a walking surface; the nominal glass thickness is not more than $\frac{3}{16}$ inch (4.8 mm); and for multiple glazing only the other pane or panes are fully tempered, laminated or wired glass.
2. ~~The glass area is greater than 16 square feet (1.49 m²);~~ the glass is sloped 30 degrees (0.52 rad) or less from vertical; and the highest point of glass is not more than 10 feet (3048 mm) above a walking surface.

Reason: Reason: R308.6.5, Item 2 is not consistent with IBC 2405.3, Item 1. This change would provide consistency and eliminate an issue in the IRC where glass areas smaller than 16 square feet would require a screen if glass thickness exceeds 3/16". See below 2405.3

2405.3 Screening

. Exception: In monolithic and multiple-layer sloped glazing systems, the following applies:

1. Fully tempered glass installed without protective screens where glazed between intervening floors at a slope of 30 degrees (0.52 rad) or less from the vertical plane shall have the highest point of the glass 10 feet (3048 mm) or less above the walking surface.

For clarification, the tables below show Examples R308.6.5 Glass Retention Screens NOT Required, and IBC 2405.3 Glass Retention Screens NOT Required:

R308.6.5 Glass Retention Screens NOT Required – Shaded Cells

Glazing Area – A (ft ²)	Glazing Slope (degrees)	Height above Walking Surface – H (ft)	Glass Thickness - t (in)
> 16	≤ 30°	≤ 10	n/a
≤ 16	n/a	≤ 12	≤ 3/16
Examples			
20	30°	10	any
20	45°	10	any
20	30°	11	any
16	any	12	3/16
16	any	13	3/16
16	any	12	1/4
4	any	10	1/4
4	any	10	1/4
4	any	11	1/4

Thicker glass (>3/16") means screens are required even for small glass areas? Why?

 **IBC 2405.3 Glass Retention Screens NOT Required – Shaded Cells**

Glazing Area – A (ft ²)	Glazing Slope (degrees)	Height above Walking Surface – H (ft)	Glass Thickness - t (in)
n/a	≤ 30°	≤ 10	n/a
≤ 16	n/a	≤ 12	≤ 3/16
Examples			
any	30°	10	any
any	45°	10	any
any	30°	11	any
16	any	12	3/16
16	any	13	3/16
16	any	12	1/4

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This is for clarification and consistency between codes only. There are no technical changes.

EB87-22

IEBC: 804.11 (New), 804.12 (New), 804.10, 804.10.1, 804.10.2, 804.12, 804.12.1, 804.12.2, 804.11

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

Add new text as follows:

804.11 Stairways. An existing stairway shall not be required to comply with the requirements of Section 1011 of the *International Building Code* where the existing space and construction does not allow a reduction in pitch or slope.

804.12 Escalators. Where provided in below-grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).

Revise as follows:

~~804.10~~ **804.13 Handrails.** The requirements of Sections ~~804.10.1~~ 804.13.1 and ~~804.10.2~~ 804.13.2 shall apply to handrails from the *work area* floor to, and including, the level of exit discharge.

~~804.10.1~~ **804.13.1 Minimum requirement.** Every required exit stairway that is part of the means of egress for any *work area* and that has three or more risers and is not provided with not fewer than one handrail, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails for the full length of the stairway on not fewer than one side. Exit stairways with a required egress width of more than 66 inches (1676 mm) shall have handrails on both sides.

~~804.10.2~~ **804.13.2 Design.** Handrails required in accordance with Section ~~804.10.1~~ 804.13.1 shall be designed and installed in accordance with the provisions of the *International Building Code*.

Exception: Handrails otherwise required to comply with Section 1011.11 of the *International Building Code* shall not be required to comply with the requirements of Section 1014.6 of the *International Building Code* regarding full extension of the handrails where such extensions would be hazardous because of plan configuration.

~~804.12~~ **804.14 Guards.** The requirements of Sections ~~804.12.1~~ 804.14.1 and ~~804.12.2~~ 804.14.2 shall apply to guards from the *work area* floor to, and including, the level of exit discharge but shall be confined to the egress path of any *work area*.

~~804.12.1~~ **804.14.1 Minimum requirement.** Every open portion of a stairway, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

~~804.12.2~~ **804.14.2 Design.** Guards required in accordance with Section ~~804.12.1~~ 804.14.1 shall be designed and installed in accordance with the *International Building Code*.

~~804.11~~ **804.4 Refuge areas.** Where *alterations* affect the configuration of an area utilized as a refuge area, the capacity of the refuge area shall not be reduced below the required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the *International Building Code*. Where the horizontal exit also forms a smoke compartment, the capacity of the refuge area for Group I-1, I-2 and I-3 occupancies and Group B ambulatory care *facilities* shall not be reduced below that required in Sections 407.5.3, 408.6.2, 420.6.1 and 422.3.2 of the *International Building Code*, as applicable.

Reason: The intent of this proposal is to put in the same allowances in the prescriptive method and work area method for 1) existing stairways being replaced, 2) handrail extensions and 3) escalators to below-grade transportation systems. The prescriptive method contains these allowances in Section 503.1 for alterations.

503.1 General. Alterations to any building or structure shall comply with the requirements of the International Building Code for new construction. Alterations shall be such that the existing building or structure is not less complying with the provisions of the International Building Code than the existing building or structure was prior to the alteration.

Exceptions:

1. An existing stairway shall not be required to comply with the requirements of Section 1011 of the International Building Code where the existing space and construction does not allow a reduction in pitch or slope.
2. Handrails otherwise required to comply with Section 1011.11 of the International Building Code shall not be required to comply with the requirements of Section 1014.6 of the International Building Code regarding full extension of the handrails where such extensions would be hazardous because of plan configuration.
3. Where provided in below-grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).

While the purpose of this change is for correlation between IEBC options, the BCAC was informed that there were an issue in the current section on escalators regarding coordination with the ADA (503.1). There is a proposal submitted by Marsha Mazz addressing this issue. If this proposal is successful, the text here should be coordinated. The reordering in Section 804 allows for the requirements for stairways, escalators, handrails and

guards to be located together and refuge areas to be moved behind Group I-2. The end result would be as follows.

SECTION 804

MEANS OF EGRESS

804.1 Scope.

804.2 General.

804.3 Group I-2.

804.4 ~~804.11~~ Refuge areas.

804.5 ~~804.4~~ Number of exits.

804.6 ~~804.5~~ Egress doorways.

804.7 ~~804.6~~ Openings in corridor walls.

804.8 ~~804.7~~ Dead-end corridors.

804.9 ~~804.8~~ Means-of-egress lighting.

804.10 ~~804.9~~ Exit signs.

804.11 Stairways.

804.12 Escalators.

804.13 ~~804.10~~ Handrails.

804.14 ~~804.12~~ Guards.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal merely correlates the stairway and handrail allowances and requirements for the prescriptive method with the work area method.

Otherwise without this allowance when applying the work area method stairways and handrails would be required to strictly comply with the IBC whereas the prescriptive method may not require such compliance. Therefore the intent is provide the same allowed which may either reduce or not change the cost of compliance for the work area method.

RB88-22

IRC: R309.6 (New), UL Chapter 44 (New)

Proponents: Larry Sherwood, representing Solar Energy Action Committee (Larry@irecusa.org); Kevin Reinertson, representing California Fire Chiefs Association FPO (kevin.reinertson@fire.ca.gov); Benjamin Davis, representing California Solar & Storage Association (ben@calssa.org); Philip Oakes, representing National Association of State Fire Marshals; Joseph Cain, representing Solar Energy Industries Association (SEIA) (joecainpe@gmail.com); Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Add new text as follows:

R309.6 Electric vehicle charging stations and systems. Where provided, electric vehicle charging systems shall be installed in accordance with NFPA 70. Electric vehicle charging system equipment shall be listed and labeled in accordance with UL 2202. Electric vehicle supply equipment shall be listed and labeled in accordance with UL 2594.

Add new standard(s) as follows:

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062

2202—2009 Electric Vehicle (EV) Charging System Equipment—with Revisions through February 2018

2594—2016 Electric Vehicle Supply Equipment

Reason: Electric vehicles are rapidly becoming more common. This proposal is in alignment with the requirements in both the 2018 and 2021 IBC for motor vehicle-related occupancies (IBC Section 406.2.7), which includes private garages. These requirements on how to install these systems should also be in the IRC, for those installations where these systems are provided.

This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner.

All recommendations from SEAC are approved by diverse stakeholders through a consensus process.

BCAC REASON: Electric vehicles are rapidly becoming more common. This proposal is in alignment with the requirements in both the 2018 and 2021 IBC for motor vehicle-related occupancies (IBC Section 406.2.7), which includes private garages. These requirements on how to install these systems should also be in the IRC, for those installations where these systems are provided.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Bibliography: Reference:

IBC 406.2.7 Electric vehicle charging stations and systems. Where provided, electric vehicle charging systems shall be installed in accordance with NFPA 70. Electric vehicle charging system equipment shall be listed and labeled in accordance with UL 2202. Electric vehicle supply equipment shall be listed and labeled in accordance with UL 2594. Accessibility to electric vehicle charging stations shall be provided in accordance with Section 1108.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal aligns with the requirements in the IBC. These systems are not mandated to be installed, but if they are, the installation should be done properly.

BCAC Cost Impact: This proposal aligns with the requirements in the IBC. These systems are not mandated to be installed, but if they are, the installation should be done properly.

Staff Analysis: UL 2202-2009 Electric Vehicle Charging System Equipment - with revisions through February 2018 and UL 2594-2016 Electric Vehicle Supply Equipment are already referenced in the IBC. These are simply new occurrences of the references in the I-Codes

RB89-22

IRC: SECTION R310.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

SECTION R310 EMERGENCY ESCAPE AND RESCUE OPENINGS

Revise as follows:

R310.1 Emergency escape and rescue opening required. *Basements, habitable attics* and every sleeping room shall have not less than one operable *emergency escape and rescue opening*. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room. *Emergency escape and rescue openings* shall open directly into a *public way*, or to a *yard* or court having a minimum width of 36 inches (914 mm) that opens to a *public way*.

Exceptions:

1. *Storm shelters* and *basements* used only to house mechanical *equipment* not exceeding a total floor area of 200 square feet (18.58 m²).
2. Where the *dwelling unit* or *townhouse unit* is equipped with an automatic sprinkler system installed in accordance with Section P2904, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
 - 2.1. One means of egress complying with Section R311 and one *emergency escape and rescue opening*.
 - 2.2. Two means of egress complying with Section R311.
3. A *yard* shall not be required to open directly into a *public way* where the *yard* opens to an unobstructed path from the *yard* to the *public way*. Such path shall have a width of not less than 36 inches (914 mm).

Reason: The intent is to remove redundant language Code change RB86-19 AM added a 36" wide route to the public way to the main text, and RB87-19 AS added exception 3 which is intended to also require a 36" wide route to the public way. The exception addresses a specific concern, so the 36" requirement is not needed in the main paragraph.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. There are no changes to construction requirements for the route from the EERO to the public way. These are clarifications only by a removal of duplicate language.

RB90-22

IRC: R310.1

Proponents: Quyen Thai, representing Washington Association of Building Officials Technical Code Committee (qthai76@gmail.com); Micah Chappell, representing Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2021 International Residential Code

Revise as follows:

R310.1 Emergency escape and rescue opening required. *Basements, habitable attics* and every sleeping room shall have not less than one operable *emergency escape and rescue opening*. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room. *Emergency escape and rescue openings* shall open directly into a *public way*, or to a *yard* or court having a minimum width of 36 inches (914 mm) and provides an unobstructed path of egress travel that opens to a public way. Such an unobstructed path of egress travel shall have a minimum clear width of 3-feet and a minimum height of 7-feet.

Exceptions:

1. *Storm shelters* and *basements* used only to house mechanical *equipment* not exceeding a total floor area of 200 square feet (18.58 m²).
2. Where the *dwelling unit* or *townhouse unit* is equipped with an automatic sprinkler system installed in accordance with Section P2904, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
 - 2.1. One means of egress complying with Section R311 and one *emergency escape and rescue opening*.
 - 2.2. Two means of egress complying with Section R311.
3. A *yard* shall not be required to open directly into a *public way* where the *yard* opens to an unobstructed path from the *yard* to the *public way*. Such path shall have a width of not less than 36 inches (914 mm).
4. Gates with operational constraints and opening control devices without the use of keys, tools or special knowledge.
5. Window wells equipped with a cover complying with Section R310.4.4.

Reason: It is recognized that as development density increases, site yards are being utilized for a variety of purposes, including landscaping and amenity requirements, on-site drainage retention, and mechanical installations. In addition to topographic constraints, these installations may become barriers for EERO use, preventing occupants from self-evacuating to the public way or access by emergency personnel. Section R310.1 is silent on what constitutes an acceptable path from an EERO to the public way which leads to inconsistency in what is permitted within these yards and courts.

This proposal clarifies that an unobstructed path is required to have minimum physical dimensions for safe and timely occupant self-evacuation and emergency rescue personnel access. These 36-inch x 7-ft dimensions align with the requirements for egress courts under the International Building Code and the minimum height accounts for cantilever and projection conditions common in residential construction. In addition, Exceptions 4 & 5 allow for flexibility by permitting common gate and window well features within the unobstructed path with conditions that ensure timely evacuation and access along the path.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal only clarifies what is unobstructed and not obstructed and does not create any construction requirements to a project.

RB91-22

IRC: R310.1, R310.1.1 (New), R310.1.1

Proponents: Jenifer Gilliland, representing Seattle Department of Construction and Inspections (jenifer.gilliland@seattle.gov); Richard Pellingier, representing Seattle Department of Construction and Inspections (richard.pellingier@seattle.gov)

2021 International Residential Code

Revise as follows:

R310.1 Emergency escape and rescue opening required. *Basements, habitable attics* and every sleeping room shall have not less than one operable *emergency escape and rescue opening*. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room. ~~*Emergency escape and rescue openings shall open directly into a public way, or to a yard or court having a minimum width of 36 inches (914 mm) that opens to a public way.*~~

Exceptions:

1. *Storm shelters* and *basements* used only to house mechanical *equipment* not exceeding a total floor area of 200 square feet (18.58 m²).
2. Where the *dwelling unit* or *townhouse unit* is equipped with an automatic sprinkler system installed in accordance with Section P2904, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
 - 2.1. One means of egress complying with Section R311 and one *emergency escape and rescue opening*.
 - 2.2. Two means of egress complying with Section R311.
3. ~~A *yard* shall not be required to open directly into a *public way* where the *yard* opens to an unobstructed path from the *yard* to the *public way*. Such path shall have a width of not less than 36 inches (914 mm).~~

Add new text as follows:

R310.1.1 Access. *Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that provides an unobstructed path with a minimum width of 36 inches (914 mm) that opens to a public way.* The following are permitted within the unobstructed path:

1. Gates readily operable without the use of a key or special knowledge or effort.
2. Window wells equipped with a cover complying with Section R310.4.4.

Revise as follows:

~~**R310.1.1**~~ **R310.1.2 Operational constraints and opening control devices.** *Emergency escape and rescue openings* shall be operational from the inside of the room without the use of keys, tools or special knowledge. Window opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as a required *emergency escape and rescue opening* and shall be not more than 70 inches (178 cm) above the finished floor.

Reason: For clarity, this proposal separates the provisions and exceptions for where Emergency Escape and Rescue Openings (EERO) are required under Section R310.1 from the access/evacuation path conditions under new Section R310.1.1. In addition, Exception #3 has been removed as it is now covered under Section R310.1.1. This proposal also provides for flexibility by identifying which objects are permitted within the unobstructed path.

Currently, Section R310.1 is silent on what constitutes an acceptable path from an EERO to the public way, which leads to inconsistency in the application of this code section. As development density increases, yards are used to satisfy a variety of landscaping, amenity, on-site drainage retention, and mechanical requirements. In addition to topographic features, these objects and physical features can prevent occupants from self-evacuating or impede access to the EERO by fire service personnel.

This proposal limits obstructions to gates and window wells with conditions. It is reasonable to permit a gate, typically associated with privacy fencing, to be located within the unobstructed path. The associated conditions ensure that the gate allows for free passage and does not impede occupants self-evacuating to the public way or access by emergency personnel. In addition, window wells are commonly located within narrow side yards which can encroach into the required 36-inch wide path. The requirement that the cover complies with Section R310.4.4 eliminates any fall/tripping hazard, removes the potential hazard of a window well within the path of EEROs to the ROW, and ensures the continuity of the evacuation/access path.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The proposal clarifies what is permitted in the unobstructed path and does not create any additional construction requirements for a project.

RB92-22

IRC: R310.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

CHAPTER 3 BUILDING PLANNING

SECTION R310 EMERGENCY ESCAPE AND RESCUE OPENINGS

Revise as follows:

R310.1 Emergency escape and rescue opening required. *Basements, habitable attics* and every sleeping room shall have not less than one operable *emergency escape and rescue opening*. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room. *Emergency escape and rescue openings* shall open directly into a *public way*, or to a *yard* or court having a minimum width of 36 inches (914 mm) that opens to a *public way*.

Exceptions:

1. ~~Storm shelters and basements~~ Basements used only to house mechanical *equipment* not exceeding a total floor area of 200 square feet (18.58 m²).
2. Storm shelters constructed in accordance with ICC 500.
- ~~2-3.~~ Where the *dwelling unit* or *townhouse unit* is equipped with an automatic sprinkler system installed in accordance with Section P2904, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
 - ~~2-1.~~ 3.1. One means of egress complying with Section R311 and one *emergency escape and rescue opening*.
 - ~~2-2.~~ 3.2. Two means of egress complying with Section R311.
- ~~3-4.~~ A *yard* shall not be required to open directly into a *public way* where the *yard* opens to an unobstructed path from the *yard* to the *public way*. Such path shall have a width of not less than 36 inches (914 mm).

Reason: The intent of this proposal is to eliminate a possible mis-interpretation. The 200 sq.ft. limit is meant to be only for basements used to house mechanical equipment. The EERO should not be installed in any size residential shelter because the additional opening is a reduction in safety for the occupants in the storm shelter during a tornado. Residential shelters have specific criteria in ICC 500.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

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Cost Impact: The code change proposal will not increase or decrease the cost of construction. There are no changes to construction requirements. These are clarifications only for storm shelters.

RB93-22

IRC: R310.1.1, R310.4.4, R311.2

Proponents: Glenn Mathewson, representing Self (glenn@glenmathewson.com)

2021 International Residential Code

Revise as follows:

R310.1.1 Operational constraints and opening control devices. *Emergency escape and rescue openings* shall be operational from the inside of the room without the use of a key, tool, keys, tools or special knowledge, or effort. Window opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as a required *emergency escape and rescue opening* and shall be not more than 70 inches (178 cm) above the finished floor.

R310.4.4 Bars, grilles, covers and screens. Where bars, grilles, covers, screens or similar devices are placed over *emergency escape and rescue openings*, bulkhead enclosures or area wells that serve such openings, the minimum net clear opening size shall comply with Sections R310.2 through R310.2.2 and R310.4.1. Such devices shall be releasable or removable from the inside without the use of a key, tool, special knowledge or effort, or tool or force greater than that required for the normal operation of the escape and rescue opening.

R311.2 Egress door. Not less than one egress door shall be provided for each *dwelling* unit. The egress door shall be side-hinged, and shall provide a clear width of not less than 32 inches (813 mm) where measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). The clear height of the door opening shall be not less than 78 inches (1981 mm) in height measured from the top of the threshold to the bottom of the stop. Other doors shall not be required to comply with these minimum dimensions. Egress doors shall be readily openable from inside the *dwelling* without the use of a key, tool, or special knowledge or effort.

Reason: The operational constraints of these three features need to be functional to one person. I presume this person's cognitive ability to operate these three features as described is not as varied as the requirements in these three sections.

The door can require a tool, but not effort. The EERO can't require special knowledge, but can require unlimited effort. The area well cover can require special knowledge but it can't require force. Well it can, but not more than the force to open the window... which is unlimited... What if I get a new window that opens easier? Now I have to get a new lighter cover?

In this proposal, no expectations of this occupant to free themselves from a building have been altered. The capabilities of the human are the same. The only terms proposed for modification are terms already used. I expect some may have small opposition to certain words in certain sections, but those words are capabilities that we already expect or don't expect of the occupant.

My motivation for this proposal was from developing and teaching a course specific to sections 310 and 311 where the complete intent of each section is discussed. I was unable to explain the rationale behind these three sections without leaving the student rolling their eyes and distrusting the inconsistency and seemingly arbitrary requirements. I was also quite surprised when "special knowledge" was removed from covers in 2021.

No effort, tools, keys or special knowledge to get you out of the house. Easy. Reliable. Understandable.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

Nothing in this proposal changes minimum code in a manner that would require the purchase or increase of cost of a construction product or required installation.

RB94-22

IRC: R310.2, R310.2.5 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

R310.2 Emergency escape and rescue openings. *Emergency escape and rescue openings* shall have minimum dimensions in accordance with Sections R310.2.1 through ~~R310.2.5~~ ~~R310.2.4~~.

R310.2.1 Minimum size. Emergency escape and rescue openings shall have a net clear opening of not less than 5.7 square feet (0.530 m²).

Exception: The minimum net clear opening for *grade-floor emergency escape and rescue openings* shall be 5 square feet (0.465 m²).

R310.2.2 Minimum dimensions. The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.

R310.2.3 Maximum height from floor. Emergency escape and rescue openings shall have the bottom of the clear opening not greater than 44 inches (1118 mm) above the floor.

R310.2.4 Emergency escape and rescue openings under decks, porches and cantilevers. *Emergency escape and rescue openings* installed under decks, porches and cantilevers shall be fully openable and provide a path not less than 36 inches (914 mm) in height and 36 inches (914 mm) in width to a *yard* or court.

Add new text as follows:

R310.2.5 Emergency escape and rescue openings to a carport. *Emergency escape and rescue openings discharging to a carport shall be fully openable and provide an unobstructed path not less than 80 inches (2032 mm) in height and 36 inches (914 mm) in width to a yard or court.*

Reason: The ICC Building Code Action Committee reviewed the existing code language pertaining to the possible location of an Emergency Escape and Rescue Opening (EERO) to a balcony, porch, under a carport, or to a similar location. There is a separate code change for balconies and porches.

The purpose of an EERO is to facilitate two (2) actions in the event of an emergency, the first is to provide a viable path for a building occupant out to a public way, and the second is for a first responder such as a firefighter in full garb to enter the building for rescue efforts.

As presently codified, there is question whether a carport constitutes an interior or exterior space, and by extension whether an EERO can legally discharge thereto. Carports are effectively defined in Section R309 as “open on not less than two sides” and with “floor surfaces of... approved noncombustible material,” those with additional enclosure being considered a garage. It is the opinion of the ICC BCAC that a carport is an exterior space benefiting from open-air conditions and access to a public way, and therefore provides a suitable location for an EERO.

One specific hazardous condition was identified with an EERO below a carport; the possibility of a parked vehicle obstructing either the EERO or the path to a yard or court. The word “unobstructed” is added as a qualifier to describe the exterior path of egress travel. Accordingly, the planning for an EERO below a carport will require planning that accommodates the practical egress concerns with the sheltering of a vehicle; the maintenance of this condition in perpetuity being the responsibility of the building Owner.

The 36 inches (914 mm) width is consistent with previous parts of the Section.

The 80 inches (2032 mm) height along the path of travel is in accordance with the minimum ceiling height permitted for a non-habitable room per Section R305.1 or a habitable space created in existing basements per Appendix J (AJ110.4). It is also very unlikely that a carport would be provided with less ceiling height.

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Cost Impact: The code change proposal will increase the cost of construction

This proposal will incidentally increase the cost of construction as a result of the likely increased clear floor area required for an egress path that otherwise served only as a parking area. Dwelling units will still be required to provide an EERO in the same locations, and to the same overall dimension, but now there is clarity that a carport is a viable location.

RB95-22

IRC: R310.2, R310.2.4, R310.2.5 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

R310.2 Emergency escape and rescue openings. *Emergency escape and rescue openings* shall have minimum dimensions in accordance with Sections R310.2.1 through ~~R310.2.4~~ R310.2.5.

R310.2.1 Minimum size. Emergency escape and rescue openings shall have a net clear opening of not less than 5.7 square feet (0.530 m²).

Exception: The minimum net clear opening for *grade-floor emergency escape and rescue openings* shall be 5 square feet (0.465 m²).

R310.2.2 Minimum dimensions. The minimum net clear opening height dimension shall be 24 inches (610 mm). The minimum net clear opening width dimension shall be 20 inches (508 mm). The net clear opening dimensions shall be the result of normal operation of the opening.

R310.2.3 Maximum height from floor. Emergency escape and rescue openings shall have the bottom of the clear opening not greater than 44 inches (1118 mm) above the floor.

Revise as follows:

R310.2.4 Emergency escape and rescue openings under decks, and porches and cantilevers. *Emergency escape and rescue openings* installed under decks, ~~and porches and cantilevers~~ shall be fully openable and provide a path not less than 80 inches (2032 mm) ~~36 inches (914 mm)~~ in height and 36 inches (914 mm) in width to a *yard* or court.

Add new text as follows:

R310.2.5 Emergency escape and rescue openings below cantilevers. Emergency escape and rescue openings installed below cantilevers and similar projections not exceeding 36 inches (914 mm) in depth shall be fully openable and provide a path not less than 36 inches (914 mm) in height and 36 inches (914 mm) in width to a yard or court. Emergency escape and rescue openings installed below cantilevers and similar projections measuring 36 inches (914 mm) or more in depth shall be fully openable and provide a path not less than 80 inches (2032 mm) in height and 36 inches (914 mm) in width to a yard or court.

Reason: The ICC Building Code Action Committee reviewed the existing code language pertaining to the possible location of an Emergency Escape and Rescue Opening (EERO) to a balcony, porch, under a carport, or to a similar location. There is a separate change to address carports. The purpose of an EERO is to facilitate two (2) actions in the event of an emergency, the first is to provide a viable path for a building occupant out to a public way, and the second is for a first responder such as a firefighter in full garb to enter the building for rescue efforts. As presently codified, the height requirements applicable to an EERO under a deck, porch or cantilever pose credible threats to both aforementioned parties.

1. Depending on the field conditions, an EERO located beneath or below a building / structure could easily be concealed from the view of a first responder.
1. Consider a scenario where the first floor of a dwelling is 42" above grade, and there is an enclosed porch to the front and a wood deck to the rear. It is plausible that a 36" high and wide path could be provided underneath these structures, but it is questionable whether a first responder could readily identify said EERO; if a skirting material was provided it would be nearly impossible.
1. An EERO to / from a subgrade location necessitates a presumed level of occupant mobility, and this difficulty in maneuvering is exacerbated within a confined space.
1. This also necessitates an additional property maintenance burden on the owner to ensure that concealed spaces serving as part of an egress pathway are free of obstructions at all times; a condition that is likely only to be discovered as non-compliant in the event of a tragic loss of life or injury.
1. An EERO to a confined exterior space poses secondary challenges regarding air circulation, and increases the risk of incidental self-harm (such as hitting one's head). A person with compromised faculties in a perilous situation is less likely to maintain the necessary level of self-preservation if their evacuation pathway is effectively an obstacle course.
1. A first-responder should be able to approach a situation without volunteering additional risk of personal harm. In the same sense as fire services tending to avoid driving / parking emergency vehicles under building cantilevers, porte-cochère, etc. for fear of potential structural compromise, an individual should be presented a reasonably safe path at the dwelling without concern of portions of the building collapsing above.

There are scenarios wherein an EERO could safely be provided below another structure. For example, an EERO below a second-story deck, balcony, or sunroom would not be concealed from view, nor would someone going in / out need to navigate a confined space.

The proposed increase to an 80-inch (2032 mm) recommended height along the path of travel is in accordance with the minimum ceiling height permitted for a non-habitable room per Section R305.1 or a habitable space created in existing basements per Appendix J (AJ110.4).

The existing 36-inch (914 mm) height is maintained to accommodate shallower projections such as a balcony or bay window, where there is a reasonable expectation that the EERO is visible to a first responder, said first responder can effectively maneuver to gain access to the EERO, and an occupant exiting the EERO will rapidly find themselves in an open-air exterior environment. Less common deeper projections held to the higher height established in R310.2.4.

A building may still be provided with a window or crawlspace access opening below a deck, porch, or similar structure; however, it would not qualify as an EERO unless the above-mentioned criteria are provided.

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Cost Impact: The code change proposal will not increase or decrease the cost of construction. Dwelling units will still be required to provide an EERO in the same locations, and to the same overall dimension. The clarification of the language is to provide a safer path of egress travel for all parties as experienced outside of the building enclosure.

RB96-22

IRC: R310.2.3 (New), R310.2.3

Proponents: Shane Nilles, representing Self (snilles@cityofcheney.org)

2021 International Residential Code

Add new text as follows:

R310.2.3 Landing required. There shall be a floor or landing at the interior side of the emergency escape and rescue opening. The width of the landing shall be no less than the width of the clear opening. The depth of the landing perpendicular to the opening shall be not less than 36 inches (914 mm).

Revise as follows:

~~R310.2.3~~ **R310.2.4 Maximum height from floor.** Emergency escape and rescue openings shall have the bottom of the clear opening not greater than 44 inches (1118 mm) above the floor or landing.

Reason: The code currently only makes reference to a floor as where the height of an EERO must be measured to, but does not clarify how much area of floor there must be. So it is unclear if there can simply be a small step that the opening is measured to, or an area of floor that is restricted on one or more sides by a wall or other obstruction. This proposal adds the requirement that there must be a landing on the interior side of the EERO and provides minimum dimensions for the landing. This will clarify for code users what is permissible on the interior side of the EERO and prevent greater variety in interpretation.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

It is not clear whether the proposal will increase or decrease the cost of construction. It is possible that there may be some scenarios where a building may have been constructed with less area at the interior side of an EERO than the proposal will require, though it is unlikely, in such scenario the proposal increases the cost of construction by requiring additional floor area. In scenarios where a window may have been built too high, or in more common cases where the an existing building is undergoing renovations where the EERO may not be able to meet the height requirement easily due to a roof on the exterior side, this will give the option to provide a landing that is raised above the adjacent floor instead of altering the roof structure, which would reduce the cost of construction.

RB97-22

IRC: R310.4.3, R405.3 (New)

Proponents: Joseph Summers, representing ICC Region VI (summersj@cityofgroton-ct.gov)

2021 International Residential Code

Revise as follows:

R310.4.3 Drainage. Area wells shall be designed for proper drainage ~~by connecting to the building's foundation drainage system required by Section R405.1.~~

Exception: A drainage system for area wells is not required where the foundation is on well-drained soil or sand-gravel mixture soils in accordance with the United Soil Classification System, Group I Soils, as detailed in Table R405.1.

Add new text as follows:

R405.3 Above Grade Drainage. Above grade drainage systems, including but not limited to, gutters and downspouts, roof drains, area wells and yard drains, shall not be connected to the foundation drainage system.

Reason: Foundation drainage systems are intended to divert ground water away from below grade spaces. Connecting area wells, yard drains and gutters to a foundation drainage system will overload the system and cause water migration into below grade spaces.

Cost Impact: The code change proposal will increase the cost of construction
The increase cost would be the installation of additional drainage piping, which can be installed in the same trench as the foundation drainage pipe.

RB98-22

IRC: R310.5

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

R310.5 Replacement windows for emergency escape and rescue openings. Replacement windows installed in buildings meeting the scope of this code shall be exempt from Sections R310.2 and R310.4.4, provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window ~~is~~ shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. Thereplacement window is not part of a change of occupancy.

Reason: The change to shall be permitted is for two reasons:

- 1)Consistency with IEBC 505.3, 702.5.1 and IRC R310.7.1 and Appendix J AJ102.4.3.1
- 2) Allows for the largest window with or without a change in the style of the window.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

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Cost Impact: The code change proposal will not increase or decrease the cost of construction
This increases options for the designer for replacement windows.

RB99-22

IRC: R310.5.1 (New), AJ102.4.3, AJ102.4.3.1

Proponents: Ardel Jala, representing Seattle Department of Construction & Inspections (ardel.jala@seattle.gov); Micah Chappell, representing Seattle Department of Construction & Inspections (micah.chappell@seattle.gov)

2021 International Residential Code

R310.5 Replacement windows for emergency escape and rescue openings. Replacement windows installed in buildings meeting the scope of this code shall be exempt from Sections R310.2 and R310.4.4, provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window is of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement window is not part of a change of occupancy.

Add new text as follows:

R310.5.1 Window opening control device and fall protection device height. Window opening control devices or fall protection device shall be located at a height in accordance with Section R310.1.1 or at as low a height as the device can be installed within the existing clear opening.

Delete without substitution:

~~**AJ102.4.3 Replacement windows for emergency escape and rescue openings.** Where windows are required to provide emergency escape and rescue openings, replacement windows shall be exempt from Sections R310.2 and R310.4.4 provided that the replacement window meets the following conditions:~~

- ~~1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.~~
- ~~2. Where the replacement window is not part of a change of occupancy.~~

~~Window opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as required emergency escape and rescue openings.~~

~~**AJ102.4.3.1 Control devices.** Emergency escape and rescue openings with window opening control devices or fall prevention devices complying with ASTM F2090, after operation to release the control device allowing the window to fully open, shall not reduce the net clear opening area of the window unit. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.~~

Reason: This is one of (4) proposals that pulls existing "breaks" found in Appendix J for Existing Buildings into the main body of the code. Each proposal permits flexibility from meeting full code compliance for existing construction while maintaining a reasonable level of safety. Appendix J section AJ102.4.3 and section R310.5 both provide a break on full compliance for replacement windows for emergency escape and rescue openings. This proposal provides flexibility for the vertical height of the window opening control devices and fall protection devices in existing construction. This proposal deletes Appendix J section AJ102.4.3 which is already covered in sections R310.5 and R310.1.1.

The maximum height to the bottom of the clear opening, i.e. the sill height, of an emergency escape and rescue opening is 44" per section R310.2.3. Under limited conditions, section R310.5 permits replacement windows to re-use the existing frame or existing rough opening and waives the requirements of section R310.2 including the maximum height from floor requirement of section R310.2.3.

The maximum height of window opening control devices and fall prevention devices for emergency escape and rescue openings is 70 inches above the finished floor per section R310.1.1. However since replacement windows for emergency escape and rescue openings have no maximum sill height requirement, the existing sill height could be located at a height 70 inches above the finished floor or higher.

This proposal adds a new section R310.5.1 that permits window opening control devices and fall prevention devices for replacement windows in emergency escape and rescue openings to be installed at the lowest height that the device can be installed within the clear opening when the bottom of the clear opening is higher than 70 inches and cannot be installed at the maximum height of 70 inches above the finished floor as per section R310.1.1. The proposal aligns the required window opening control device or fall prevention device height for a replacement window with the break given to replacement windows on maximum sill height.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal clarifies the height the window control device or fall prevention device may be installed under certain conditions. It does not change the technical requirements for when a control window device is required so there is no cost impact.

RB100-22

IRC: R311.3.2, R311.7.6

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

R311.3 Floors and landings at exterior doors. There shall be a landing or floor on each side of each exterior door. The width of each landing shall be not less than the door served. Landings shall have a dimension of not less than 36 inches (914 mm) measured in the direction of travel. The slope at exterior landings shall not exceed $\frac{1}{4}$ unit vertical in 12 units horizontal (2 percent).

Exception: Exterior balconies less than 60 square feet (5.6 m²) and only *accessed* from a door are permitted to have a landing that is less than 36 inches (914 mm) measured in the direction of travel.

R311.3.1 Floor elevations at the required egress doors. Landings or finished floors at the required egress door shall be not more than 1 $\frac{1}{2}$ inches (38 mm) lower than the top of the threshold.

Exception: The landing or floor on the exterior side shall be not more than 7 $\frac{3}{4}$ inches (196 mm) below the top of the threshold provided that the door does not swing over the landing or floor.

Where exterior landings or floors serving the required egress door are not at *grade*, they shall be provided with access to *grade* by means of a *ramp* in accordance with Section R311.8 or a *stairway* in accordance with Section R311.7.

Revise as follows:

R311.3.2 Floor elevations at other exterior doors. ~~At exterior doors~~ doors other than the required egress door, the exterior side shall be provided with landings or floors not more than 7 $\frac{3}{4}$ inches (196 mm) below the top of the threshold.

Exception: ~~A top~~ An exterior landing or floor is not required at the exterior doorway where a *stairway* of not more than two *risers* is located on the exterior side of the door, provided that the door does not swing over the *stairway*.

R311.3.3 Storm and screen doors. Storm and screen doors shall be permitted to swing over exterior stairs and landings.

Revise as follows:

R311.7.6 Landings for stairways. There shall be a floor or landing at the top and bottom of each *stairway*. The width perpendicular to the direction of travel shall be not less than the width of the flight served. For landings of shapes other than square or rectangular, the depth at the walk line and the total area shall be not less than that of a quarter circle with a radius equal to the required landing width. Where the *stairway* has a straight run, the depth in the direction of travel shall be not less than 36 inches (914 mm).

Exception ~~Exceptions:~~

1. A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided that a door does not swing over the stairs.
2. At an enclosed garage, the top landing at the stair shall be permitted to be not more than 7 3/4 inches (196 mm) below the top of the threshold.
3. At exterior doors, a top landing is not required for an exterior stairway of not more than two risers, provided that the door does not swing over the stairway.

R311.7.8 Handrails. *Handrails* shall be provided on not less than one side of each flight of stairs with four or more *risers*.

Reason: This proposal started as question – Can the landing or steps into a garage be the same as permitted for exterior doors or not? The following are current requirements - There is a requirement for landings at exterior doors (R311.3) and a requirement for landings at the top and bottom of stairways (R311.7.6). The required egress door has to open directly into a public way, yard or court (R311.1), so it has to be an exterior door. Egress is not permitted through a garage (R311.1).

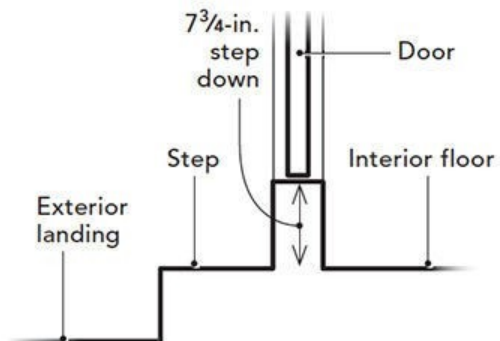
Interior doors not have requirements for landings, so going out to a single step or multiple steps would be covered by the stairway landing requirement in Section R311.7.6. The current exception clarifies that steps into a garage are considered interior stairways.

The modifications –

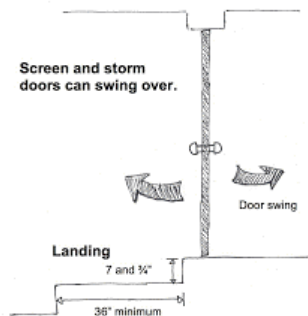
R311.3.2 – This is a requirement for a landing or floor at both sides of an exterior doorway. This section has 'exterior' in the title, and is a subsection of 'exterior doors', but does not have 'exterior' in the text. Since titles are not part of the text, this could be read as all door, or it could be read to allow a 7-3/4" drop between the floor and the threshold on both sides of the door. The modification to the body of the text would limit this to exterior doors and the exterior side for the step down. The current exception is for a stairway landing, not a door landing, so this needs to be more specific

to door landings to match the requirement in the main paragraph. "Floor" is added to address balconies and decks.

This is what is permitted with current text for exterior doors other than the means of egress doorway. While perhaps there should be a threshold limit (not proposed here), the current allowances is a serious tripping hazard.



Was this not the intended allowance?



R311.7.6 – This is the section for stairway landings. Interior doors do not have a doorway landing requirement in the IRC. The new exception #2 allows for a garage access door to swing out over a landing that is a step down, similar to an exterior door. The current exception #1 says the door has to swing in. Exception 3 for stairway landings at exterior stairways is added so that R311.3.2 and R311.7.6 are coordinated for landings at exterior doors with steps – literally this is the same landing space, but from two different requirements.

This is an example of the R311.7.6 with the current Exception 1.



This is an example of R311.7.6 new exception 2 – allowing for a step down to a landing or floor in a garage – the door can swing in or out. This is currently permitted for exterior doors (R311.3.2)





This is an example of R311.7.6 new exception 3 – which is equal to the intent of R311.3.2 exception.





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Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal clarifies existing requirements and provides additional design options for door leading into attached garages. This option could improve safety without additional costs.

RB120-22

IRC: R312.2, R312.2.1, R312.2.2 (New), R312.2.2, AJ102.4.4

Proponents: Ardel Jala, representing Seattle Department of Construction & Inspections (ardel.jala@seattle.gov); Micah Chappell, representing Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2021 International Residential Code

Revise as follows:

R312.2 Window fall protection. Window fall protection shall be provided in accordance with Sections R312.2.1 ~~and R312.2.2~~ through R312.2.3.

R312.2.1 Window opening height. In *dwelling units*, where the bottom of the clear opening of an operable window opening is located less than 24 inches (610 mm) above the finished floor and greater than 72 inches (1829 mm) above the finished *grade* or other surface below on the exterior of the building, the operable window shall comply with one of the following:

1. Operable window openings will not allow a 4-inch-diameter (102 mm) sphere to pass through where the openings are in their largest opened position.
2. Operable windows are provided with window opening control devices or fall prevention devices that comply with ASTM F2090.
3. Operable windows are provided with window opening control devices that comply with Section ~~R312.2.2~~: R312.2.3.

Add new text as follows:

R312.2.2 Fall protection at replacement windows. Window fall protection is not required where window replacement is of glazing only.

Revise as follows:

~~R312.2.2~~ **R312.2.3 Emergency escape and rescue openings.** Where an operable window serves as an *emergency escape and rescue opening*, a window opening control device or fall prevention device, after operation to release the control device or fall prevention device allowing the window to fully open, shall not reduce the net clear opening area of the window unit to less than the area required by Sections R310.2.1 and R310.2.2.

Delete without substitution:

~~**AJ102.4.4 Window control devices.** Window opening control devices or fall prevention devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:~~

- ~~1. The window is operable.~~
- ~~2. One of the following applies:~~
 - ~~2.1. The window replacement includes replacement of the sash and the frame.~~
 - ~~2.2. The window replacement includes the sash only when the existing frame remains.~~
- ~~3. The bottom of the clear opening of the window opening is at a height less than 24 inches (610 mm) above the finished floor.~~
- ~~4. The window will permit openings that will allow passage of a 4-inch diameter (102 mm) sphere where the window is in its largest opened position.~~
- ~~5. The vertical distance from the top of the sill of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).~~

Reason: This is one of (4) proposals that pulls existing "breaks" found in Appendix J for Existing Buildings into the main body of the code. Each proposal permits flexibility from meeting full code compliance for existing construction while maintaining a reasonable level of safety. This proposal deletes Appendix J section AJ102.4.4, most of which is already in section R312.2. This proposal clarifies when opening control devices and fall protection are not required for a replacement window.

Section AJ102.4.4 provides criteria for when window opening control devices or fall protection devices are required for window replacement. Items 1 through 5 of this provision must be met to trigger the installation requirement for a window opening control or fall prevention device at a replacement window. Items 1, 3, 4 and 5 are already included in section R312.2.1 as criteria for when a window opening control device or fall prevention device is required at a new window. The criteria of item 2 is satisfied when the window replacement includes replacement of either the sash and frame or when the sash only is replaced and the existing frame remains. Another way to say that is if you meet the criteria of 1, 3, 4 and 5 but only the glass is being replaced than you do not have to install a window opening control device or fall prevention device at the replacement window. That's the same as saying window fall protection is not required when you replace the glass only at a replacement window. This is a reasonable break to give existing construction when replacing the glazing and should be part of the main body of the code.

Cost Impact: The code change proposal will decrease the cost of construction

This proposal eliminates a base code requirement that requires a window control device when replacing the window glazing only in existing windows.

RB121-22

IRC: R314.1, R314.3.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

SECTION R314 SMOKE ALARMS

Revise as follows:

R314.1 General. Smoke alarms shall comply with NFPA 72, ~~and~~ Section R314, and the manufacturer's installation instructions.

R314.1.1 Listings. Smoke alarms shall be *listed* in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be *listed* in accordance with UL 217 and UL 2034.

Revise as follows:

R314.3.1 Installation near cooking appliances. Smoke alarms shall ~~not~~ be installed a minimum of 10 ft. (3.0 m) horizontally from a permanently installed cooking appliance. ~~in the following locations unless this would prevent placement of a smoke alarm in a location required by Section R314.3.~~

- ~~1. Ionization smoke alarms shall not be installed less than 20 feet (6096 mm) horizontally from a permanently installed cooking appliance.~~
- ~~2. Ionization smoke alarms with an alarm silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking appliance.~~
- ~~3. Photoelectric smoke alarms shall not be installed less than 6 feet (1828 mm) horizontally from a permanently installed cooking appliance.~~
- ~~4. Smoke alarms *listed* and marked "helps reduce cooking nuisance alarms" shall not be installed less than 6 feet (1828 mm) horizontally from a permanently installed cooking appliance.~~

Exception: Smoke alarms shall be permitted to be installed a minimum of 6 ft. (1.8 m) horizontally from a permanently installed cooking appliance where necessary to comply with Section R314.3.

Reason: This change correlates the IRC requirements for smoke alarms with the changes to the IFC and IPMC as approved by F89-21. This proposal simply aligns the code requirements in the I-Codes with the current edition of NFPA 72 and the 8th Edition of UL 217.

This proposal removes the outdated requirements related to specifying ionization or photoelectric smoke alarm technologies because all smoke alarms will be listed for resistance to common nuisance sources from cooking when the 2024 edition of the IRC is published.

NFPA 72 Section 29.11.3.4(4)(2) requires smoke alarms to be listed for resistance to common nuisance sources from cooking in accordance with the 8th Edition of UL 217 or subsequent editions. The reason UL smoke alarm and detector standards have new performance tests is to reduce the frequency of unwanted alarm activation from normal cooking activities such as pan-frying, sauteing or baking. The new cooking resistance tests are necessary because normal cooking activities are the leading cause of unwanted alarm activations that result in homeowners removing or deactivating their smoke alarms. Therefore, the technology specific requirement for devices installed between 6 and 20 feet are now longer relevant.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal simply aligns the IRC with NFPA 72 and UL 217. Since this is already required by the standards, this change to the code will not change the technical requirements.

RB122-22

IRC: R314.1.1, R314.1.2 (New)

Proponents: Jonathan Roberts, representing UL (jonathan.roberts@ul.com)

2021 International Residential Code

Revise as follows:

R314.1.1 Listings. Smoke alarms shall be *listed and labeled* in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be *listed* in accordance with UL 217 and UL 2034.

Add new text as follows:

R314.1.2 Installation. Smoke alarms shall be installed in accordance with their listing and the manufacturer's instructions.

Reason: This proposal adds requirement for these devices to be listed and labeled, since listed alarms will include a listing mark (label). It also requires smoke alarms to be installed in accordance with the listing and the manufacturer's installation instructions. "Listed" and "Labeled" are both defined terms.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

Listed smoke alarms are already identified by a label, and there is no additional cost associated with verifying they are installed in accordance with their listing and the manufacturer's instructions.

RB123-22

IRC: R314.4 (New), R314.7.3 (New)

Proponents: Mark Larson, representing National Disability Rights Network (mark@marklarsonandassociates.com)

2021 International Residential Code

Add new text as follows:

R314.4 Smoke alarm audible alarm signal in sleeping rooms. The audible alarm signal activated by single- or multiple-station smoke alarms in the sleeping rooms shall be a 520-Hz signal complying NFPA 72. Where a sleeping room smoke alarm is unable to produce a 520-Hz signal, the 520-Hz alarm signal shall be provided by a listed notification appliance or a smoke detector with an integral 520-Hz sounder.

R314.7.3 Audible alarm signal in sleeping rooms. The audible alarm signal activated by a fire alarm system in the sleeping rooms shall be a 520-Hz low-frequency signal complying with NFPA 72.

Reason: This Proposal seeks to enhance the waking effectiveness of high-risk segments of the population in the International Residential Code (IRC) by requiring the 520 Hz low frequency audible fire alarm signal in sleeping rooms. Peer-reviewed research has concluded the 520 Hz low frequency is six times more effective than the standard 3 kHz signal at waking high risk segments of the population (people over 65, people who are hard of hearing, school age children and people who are alcohol impaired). The standard 3 kHz audible alarm signal has been used in the majority of fire alarm horns and smoke alarms for the past 30 years.

Currently there are no smoke alarms available with an integral sounder capable of producing the low frequency signal because of the higher current required by the low frequency sounding appliance. A recent Fire Protection Research Foundation report FPRF concluded that the sound pressure level of low frequency sounders could be decreased from 85 dBA to 79 dBA and still achieve greater waking performance than traditional 3 kHz sounders. This level of sound output reduction will allow for significantly reduced power consumption without compromising life safety.

After the FPRF report, a modification to the UL 217 product listing standard that lowered the sound pressure level of low frequency sounders in smoke alarm from decreased from 85 dBA to 79 dBA. The new reduced power consumption in UL 217 will eliminate the high current challenge that smoke alarm manufacturers have experienced for the past 15 years and provide a cost-effective solution for waking high-risk segments of the population.

Peer-Reviewed Research:

- Ian R. Thomas and Dorothy Bruck, Waking Effectiveness of Alarms for Adults Who Are Hard of Hearing (Melbourne, Australia: Victoria University), National Fire Protection Association, 2007.
- 2020-04, "Audible Alarm Signal Waking Effectiveness: Literature Review,"

Cost Impact: The code change proposal will increase the cost of construction

The code change proposal will increase the cost of construction. The estimated total installation price increase is \$57 per sleeping room. This is based on the cost impact statement in the 2021 IFC proposal F144-18. Proposal F144-18 was submitted by the ICC Fire Code Action Committee (FCAC) and approved during the Committee Action Hearing.

RB126-22

IRC: SECTION R111.1, R111.2, R111.3

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

SECTION R111 SERVICE UTILITIES

Revise as follows:

R111.1 Connection of service utilities. *A person shall not make connections from a utility, a source of energy, fuel, ~~or power~~, or water system or sewer system to any building or system that is regulated by this code for which a *permit* is required, until *approved by the building official*.*

R111.2 Temporary connection. *The *building official* shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel, ~~or power~~, or the water system or sewer system for the purpose of testing systems for use under a temporary approval.*

R111.3 Authority to disconnect service utilities. *The *building official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards ~~set forth in Section R102.4~~ in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section R111.1 or R111.2. The *building official* shall notify the serving utility and where possible the *owner* or the owner's authorized agent and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnection, the *owner*, the owner's authorized agent or occupant of the building, structure or service system shall be notified in writing as soon as practical thereafter.*

Reason: ADM39-19 was a 2 part proposal. The revised text for service utilities was approved for IBC, IPC, IMC, IFGC, IEBC, IPSDC, IWUIC, ISPSC. The reason for disapproval by the IRC code development committee was "This would be in violation of the requirements of many public utilities across the country. (Vote 6-4)."

The BCAC respectively disagrees with the IRC development committee. The code official is not making the connection or disconnection, he just has the power to approve it were warranted. This is not over riding the public utility companies.

The main purpose of this proposal is coordination IRC with the other codes for the section on connection to services – including those coming from utilities or generated on-site

- R111.3 - Codes have references to codes and standards throughout the document, so a reference back to the list at the beginning of Chapter 1 is not inclusive.
- R111.1 and R111.2 - The list should include all the systems –including water and sewer.

The BCAC is working from the philosophy that ICC is a family of codes, so administrative requirements should be consistent across books. Most administrative and enforcement matters are the same for any code. Those matters unique for a specific code remain unchanged. This is one of a series of proposals being submitted relating to technical, editorial and organizational changes proposed for the Administrative chapters (Chapter 1) in all of the I-Codes.

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Cost Impact: The code change proposal will not increase or decrease the cost of construction

This is an editorial change that provides consistency between I-codes. This is an administrative provision that provides options for code officials for system testing and response in emergencies. Delays in waiting for a response from utilities could be costly.

RB143-22

IRC: SECTION 202, R323.1, R323.2 (New), R323.1.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Marc Levitan, representing ICC 500 Storm Shelter Standard Development Committee (icc500@iccsafe.org)

2021 International Residential Code

Revise as follows:

[RB] IMPACT PROTECTIVE SYSTEM. Impact protective systems are defined as follows:

1. Construction that has been shown by testing to withstand the impact of test missiles and that is applied, attached, or locked over exterior glazing.
2. For storm shelters, an assembly or device, subject to static or cyclic pressure and impact testing as detailed in ICC 500, installed to protect an opening in the storm shelter envelope.

R323.1 General. This section applies to the design, construction and installation of storm shelters where constructed as either separate detached buildings or where constructed as safe-rooms or spaces within buildings for the purpose of providing refuge protection from storms that produce high winds, such as tornados, and hurricanes and other severe windstorms. ~~In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC 500.~~

Add new text as follows:

R323.2 Construction. Storm shelters shall be constructed in accordance with this code and ICC 500.

Revise as follows:

~~R323.1.1~~ **R323.2.1 Sealed documentation.** The *construction documents* for all structural components and *impact protective systems* of the installed in storm shelters shall be prepared and sealed by a *registered design professional* indicating ~~that the design meets the criteria of compliance with~~ ICC 500.

Exception: *Storm shelters*, structural components and impact-protective systems that are *listed* and *labeled* to indicate compliance with ICC 500.

Reason: The purpose of this proposal is to correlate IRC Section 323 with the 2020 edition of ICC 500 and with the corresponding IBC Section 423. The changes are editorial and match editorial revisions to the scope of ICC 500, including recognizing extratropical storms are known as hurricanes, typhoons or cyclones depending on the region of the world where they occur.

To match changes made to IBC Section 423 as modified for the 2024 IBC by approved proposal G94-19, and to reflect the division between scoping requirements and construction requirements in ICC 500, a new Section R323.2 is created to hold the basic requirement to construct storm shelters per ICC 500 and the requirement for signed and sealed storm shelter construction documents added to the 2021 IRC.

The current IRC definition of Impact Protective Systems differs from ICC 500 as the IRC definition only applies to protection of exterior glazing from the typical wind-borne debris associated with design-level hurricane events in the IRC and IBC. ICC 500 requires the entire storm shelter envelope – including solid doors, louvers, and other openings – resist debris impacts associated with severe tornadoes and hurricanes exceeding code-level design wind speeds. Since this difference could be misleading for someone unfamiliar with ICC 500, it is suggested to modify the IRC definition. The format matches other definitions such as Wind-Borne Debris Regions, Story Above Grade Plane and Mechanical Joint.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

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Cost Impact: The code change proposal will not increase or decrease the cost of construction

The changes are editorial and correlate with the current edition of ICC 500. The changes do not impact how a storm shelter is designed, constructed, or installed and thus do not affect the cost of providing a storm shelter.

RB144-22

IRC: SECTION 202 (New), R323.1.2 (New)

Proponents: Stephen Skalko, representing Masonry Alliance for Codes and Standards (svskalko@svskalko-pe.com); Scott Campbell, representing NRMCA (scampbell@nrmca.org)

2021 International Residential Code

[RB] STORM SHELTER. A building, structure or portion thereof, constructed in accordance with ICC 500 and designated for use during a severe wind storm event, such as a hurricane or tornado.

Add new definition as follows:

Community storm shelter. A storm shelter not defined as a “Residential storm shelter.” This includes storm shelters intended for use by the general public, by building occupants or a combination of both.

Residential storm shelter. A storm shelter serving occupants of dwelling units and having a design occupant capacity not exceeding 16 persons.

Add new text as follows:

R323.1.2 Shelters required. In areas where the shelter design wind speed for tornados is 250 mph in accordance with Figure 304.2(1) of ICC 500, a storm shelter shall be provided in accordance with ICC 500. *Residential storm shelters* serving dwelling units shall be located in accordance with ICC 500 Section 403.2. *Community storm shelters* shall be located where the maximum distance of travel from not fewer than one exterior door of each dwelling unit to a door of the shelter serving that dwelling unit does not exceed 1,000 feet (305 m).

Exception: Dwellings meeting the requirements for shelter design in ICC 500.

Reason: Section R323 of the IRC tells the code user to use ICC 500, *Standard for the Design and Construction of Storm Shelters* for requirements to be met if storm shelters associated with one-and two-family dwellings are provided. However, the code does not require that such shelters be provided. Recent tornado events continue to show the need to provide such shelters for one-and two-family dwellings in high tornado wind regions. Experience has shown that storm shelters in high tornado wind regions provide protection for persons from injury or death due to structural collapse and/or wind-borne debris.

This proposal will require storm shelters be provided for one-and two-family dwellings built in areas where the tornado wind speeds are 250 mph or higher according to ICC 500 Figure 304.2(1). The area covered by this tornado wind speed is consistent with the areas in five states that recently experienced devastating damage, reportedly over 100 deaths and many more injured from a series of tornado events occurring within a 24-hour period December 10-11, 2021.

The proposal also permits a stand-alone shelter, either as an accessory building to the dwelling or a community shelter, to meet the requirements of this section. Where a stand-alone storm shelter is provided, the proposal limits the travel distance to the stand-alone shelter based on ICC 500 Section 403.2 for Residential storm shelters, or within 1000 feet from at least one exterior door of the dwelling unit to a Community storm shelter door.

Bibliography: Satellites Spot Tornado Tracks Across Midwest (nasa.gov)

Cost Impact: The code change proposal will increase the cost of construction

Including a storm shelter within a dwelling unit or as a stand-alone structure will increase the cost of construction. The actual costs will depend on the materials of choice and design features of the shelter. Insofar as any cost-benefit conclusion, that is extremely difficult to quantify when considering actions to save lives. However, it can be stated that a shelter does increase the probability that persons are more likely to survive an event with the shelter rather than being exposed to the elements outside the shelter.

RB151-22

IRC: R325.2

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

SECTION R325 MEZZANINES

Revise as follows:

R325.2 Mezzanines. The clear height above and below *mezzanine* floor construction shall be not less than 7 feet (2134 mm).

Exception: The ceiling height above the mezzanine shall be permitted to comply with Section 305.1 where the mezzanine meets the minimum room size in Section R304.

SECTION R326 HABITABLE ATTICS

R326.2 Minimum dimensions. A habitable attic shall have a floor area in accordance with Section R304 and a ceiling height in accordance with Section R305.

Reason: The provisions for minimum room area (R304) and ceiling height (R305) provide criteria for with habitable rooms/spaces and basements, but neither specifically mentions mezzanines (R325) or habitable attics (R326). Habitable attics does reference R304 and R305 for minimum size and height, so you can do sloped ceilings or beams in the habitable attic. However, the current text does not address a sloped ceiling or beams in a mezzanine. While I do not believe it is the intent to require a mezzanine to be at least 70 sq.ft. or at least 7 feet in each direction the same as a room (per R304), the proposal would allow for mezzanines with sloped ceilings beams where the mezzanine was the size of a room. Below are sections R304 and R305 for reference. Mezzanines are habitable spaces.

SECTION R304

MINIMUM ROOM AREAS

304.1 Minimum area. Habitable rooms shall have a floor area of not less than 70 square feet (6.5 m²).

Exception: Kitchens.

304.2 Minimum dimensions. Habitable rooms shall be not less than 7 feet (2134 mm) in any horizontal dimension.

Exception: Kitchens.

304.3 Height effect on room area. Portions of a room with a sloping ceiling measuring less than 5 feet (1524 mm) or a furred ceiling measuring less than 7 feet (2134 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required habitable area for that room.

SECTION R305

CEILING HEIGHT

R305.1 Minimum height. Habitable space, hallways and portions of basements containing these spaces shall have a ceiling height of not less than 7 feet (2134 mm). Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches (2032 mm).

Exceptions:

1. For rooms with sloped ceilings, the required floor area of the room shall have a ceiling height of not less than 5 feet (1524 mm) and not less than 50 percent of the required floor area shall have a ceiling height of not less than 7 feet (2134 mm).
2. The ceiling height above bathroom and toilet room fixtures shall be such that the fixture is capable of being used for its intended purpose. A shower or tub equipped with a showerhead shall have a ceiling height of not less than 6 feet 8 inches (2032 mm) above an area of not less than 30 inches (762 mm) by 30 inches (762 mm) at the showerhead.
3. Beams, girders, ducts or other obstructions in basements containing habitable space shall be permitted to project to within 6 feet 4 inches (1931 mm) of the finished floor.

4. Beams and girders spaced apart not less than 36 inches (914 mm) in clear finished width shall project not more than 78 inches (1981 mm) from the finished floor.

R305.1.1 Basements. Portions of basements that do not contain habitable space or hallways shall have a ceiling height of not less than 6 feet 8 inches (2032 mm).

Exception: At beams, girders, ducts or other obstructions, the ceiling height shall be not less than 6 feet 4 inches (1931 mm) from the finished floor.

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Cost Impact: The code change proposal will not increase or decrease the cost of construction

This is a clarification only for mezzanines constructed under sloped roofs. It will increase design options without increasing requirements.

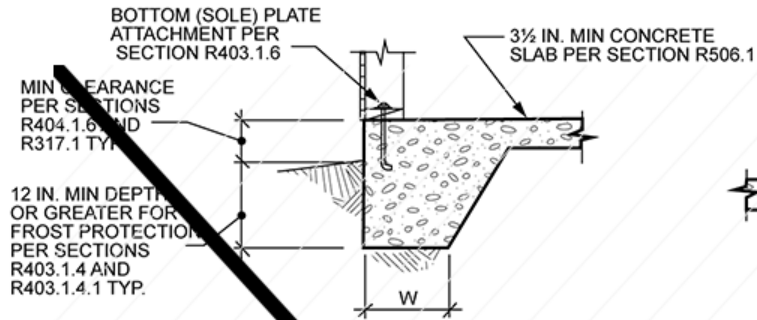
RB167-22

IRC: FIGURE R403.1(1)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

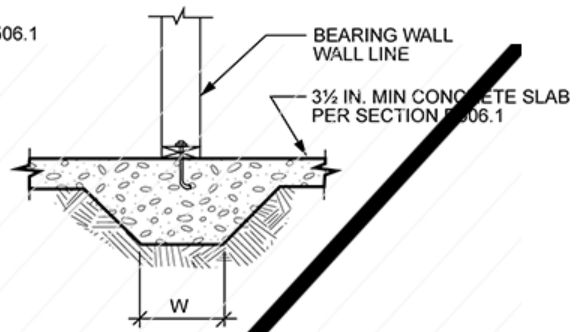
2021 International Residential Code

Revise as follows:



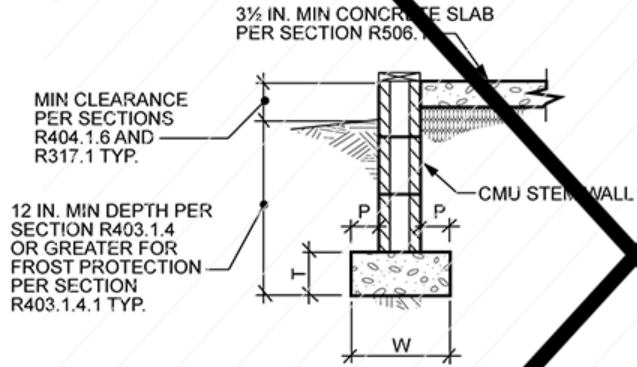
1 MONOLITHIC SLAB-ON-GROUND WITH TURNED-DOWN FOOTING

SCALE: NOT TO SCALE



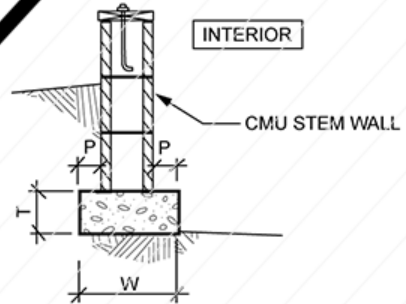
2 THICKENED SLAB-ON-GROUND FOOTING AT BEARING WALLS OR BRACED WALL LINES

SCALE: NOT TO SCALE



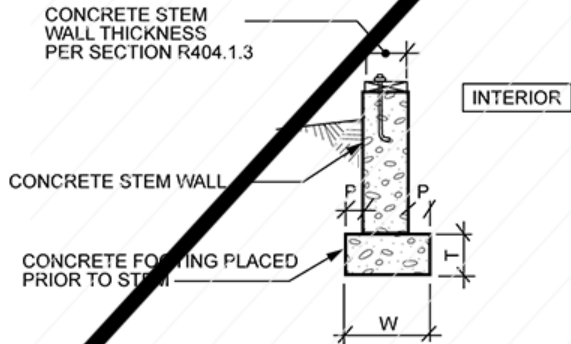
3 SLAB-ON-GROUND WITH MASONRY STEM WALL AND SPREAD FOOTING

SCALE: NOT TO SCALE



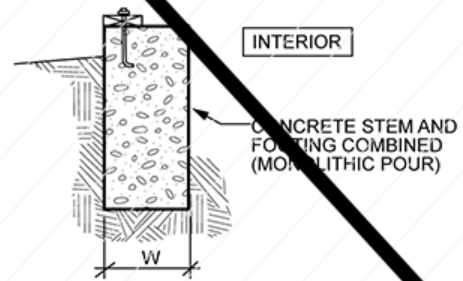
4 BASEMENT OR CRAWL SPACE WITH MASONRY WALL AND SPREAD FOOTING

SCALE: NOT TO SCALE



5 BASEMENT OR CRAWL SPACE WITH CONCRETE WALL AND SPREAD FOOTING

SCALE: NOT TO SCALE



6 BASEMENT OR CRAWL SPACE WITH FOUNDATION WALL BEARING DIRECTLY ON SOIL

SCALE: NOT TO SCALE

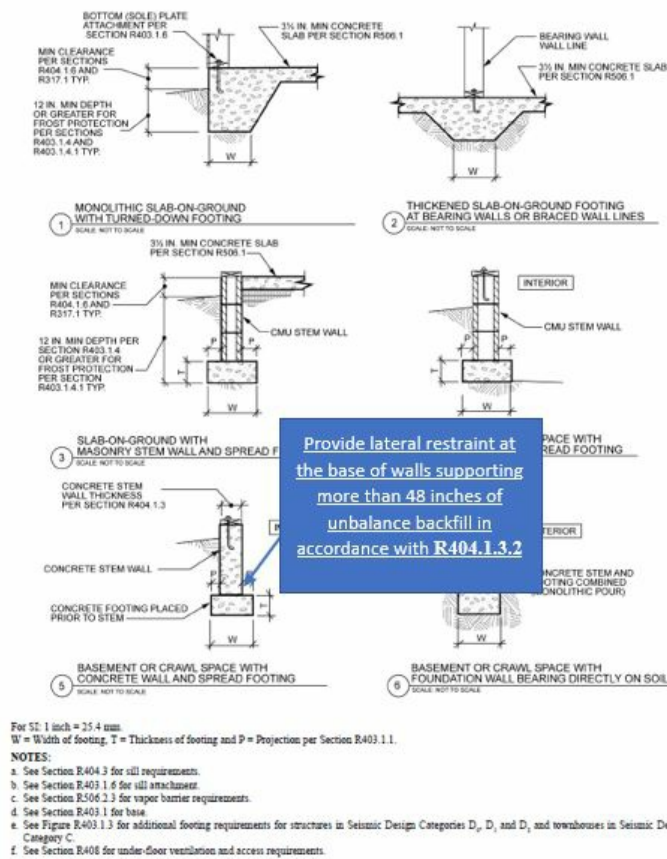


FIGURE R403.1(1)
PLAIN CONCRETE FOOTINGS WITH MASONRY AND CONCRETE
STEM WALLS IN SEISMIC DESIGN CATEGORIES A, B AND C^{a, b, c, d, e, f}

For SI: 1 inch = 25.4 mm.

W = Width of footing, T = Thickness of footing and P = Projection per Section R403.1.1.

- a. See Section R404.3 for sill requirements.
- b. See Section R403.1.6 for sill attachment.
- c. See Section R506.2.3 for vapor barrier requirements.
- d. See Section R403.1 for base.
- e. See Figure R403.1.3 for additional footing requirements for structures in Seismic Design Categories D₀, D₁ and D₂ and townhouses in Seismic Design Category C.
- f. See Section R408 for under-floor ventilation and access requirements.

FIGURE R403.1(1) PLAIN CONCRETE FOOTINGS WITH MASONRY AND CONCRETE STEM WALLS IN SEISMIC DESIGN CATEGORIES A, B AND C^{a, b, c, d, e, f}

Reason: All basement walls tables assumed the wall is laterally supported at the top and bottom. See foot notes in all concrete walls tables. Footnote g. states “Where walls will retain 4 feet or more of unbalanced backfill, they shall be laterally supported at the top and bottom before backfilling”. R403.1.1 Minimum size for footing reference Figure R403.1(1). Figure R403.1(1) does not show any connection requirements. This proposal gives options for footing to wall connections in FIGURE R403.1(1) by adding a pointer states “Provide lateral restraint at the base of walls supporting more than 48 inches of unbalance backfill in accordance with R404.1.3.2”.

This lateral restraint can be provided by a keyway, footing dowels, or by a slab-on-ground poured against the base of the wall.

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BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal clarifies the requirements in the current code text. All basement walls tables assumed the wall is laterally supported at the top and bottom. This proposal clarifies the options for connections. There is no change in the cost since this is based on the current practice.

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IRC: R404.1.2, R404.1.2.1, TABLE R404.1.1(1), TABLE R404.1.1(2), TABLE R404.1.1(3), TABLE R404.1.1(4), R404.1.3.2, TABLE R404.1.2(1), TABLE R404.1.2(2), TABLE R404.1.2(3), TABLE R404.1.2(4), TABLE R404.1.2(5), TABLE R404.1.2(6), TABLE R404.1.2(7), TABLE R404.1.2(8), TABLE R404.1.2(9), R404.1.3.3.7.2, R404.1.3.3.7.6, R404.1.4.1, R404.1.4.2, R404.1.5.2

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

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R404.1.2 Design of masonry foundation walls. Masonry foundation walls shall be designed and constructed in accordance with the provisions of this section or in accordance with the provisions of TMS 402. Where TMS 402 or the provisions of this section are used to design masonry foundation walls, project drawings, typical details and specifications are not required to bear the seal of the architect or engineer responsible for design, unless otherwise required by the state law of the *jurisdiction* having authority.

Revise as follows:

R404.1.2.1 Masonry foundation walls. *Concrete masonry* and *clay masonry* foundation walls shall be constructed as set forth in Table ~~R404.1.1(1)~~ R404.1.2.1(1), ~~R404.1.1(2)~~ R404.1.2.1(2), ~~R404.1.1(3)~~ R404.1.2.1(3) or ~~R404.1.1(4)~~ R404.1.2.1(4) and shall comply with applicable provisions of Section R606. In buildings assigned to *Seismic Design Categories* D₀, D₁ and D₂, *concrete masonry* and *clay masonry* foundation walls shall also comply with Section R404.1.4.1. Rubble stone masonry foundation walls shall be constructed in accordance with Sections R404.1.8 and R606.4.2. Rubble stone masonry walls shall not be used in *Seismic Design Categories* D₀, D₁ and D₂, or in *townhouses* in Seismic Design Category C.

TABLE R404.1.1(1) R404.1.2.1(1) PLAIN MASONRY FOUNDATION WALLS^f

MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT ^c (feet)	PLAIN MASONRY ^a MINIMUM NOMINAL WALL THICKNESS (inches)		
		Soil classes ^b		
		GW, GP, SW and SP	GM, GC, SM, SM-SC and ML	SC, MH, ML-CL and inorganic CL
5	4	6 solid ^d or 8	6 solid ^d or 8	6 solid ^d or 8
	5	6 solid ^d or 8	8	10
6	4	6 solid ^d or 8	6 solid ^d or 8	6 solid ^d or 8
	5	6 solid ^d or 8	8	10
	6	8	10	12
7	4	6 solid ^d or 8	8	8
	5	6 solid ^d or 8	10	10
	6	10	12	10 solid ^d
	7	12	10 solid ^d	12 solid ^d
8	4	6 solid ^d or 8	6 solid ^d or 8	8
	5	6 solid ^d or 8	10	12
	6	10	12	12 solid ^d
	7	12	12 solid ^d	Note e
	8	10 grout ^d	12 grout ^d	Note e
9	4	6 grout ^d or 8 solid ^d or 12	6 grout ^d or 8 solid ^d	8 grout ^d or 10 solid ^d
	5	6 grout ^d or 10 solid ^d	8 grout ^d or 12 solid ^d	8 grout ^d
	6	8 grout ^d or 12 solid ^d	10 grout ^d	10 grout ^d
	7	10 grout ^d	10 grout ^d	12 grout
	8	10 grout ^d	12 grout	Note e
	9	12 grout	Note e	Note e

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- a. Mortar shall be Type M or S and masonry shall be laid in running bond. UngROUTED hollow masonry units are permitted except where otherwise indicated.
- b. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.
- c. Unbalanced backfill height is the difference in height between the exterior finish ground level and the lower of the top of the concrete footing that supports the foundation wall or the interior finish ground level. Where an interior concrete slab-on-grade is provided and is in contact with the interior surface of the foundation wall, measurement of the unbalanced backfill height from the exterior finish ground level to the top of the interior concrete slab is permitted.
- d. Solid indicates solid masonry unit; grout indicates grouted hollow units.
- e. Wall construction shall be in accordance with Table ~~R404.1.1(2)~~ R404.1.2.1(2), ~~R404.1.1(3)~~ R404.1.2.1(3) or ~~R404.1.1(4)~~ R404.1.2.1(4), or a design shall be provided.
- f. The use of this table shall be prohibited for soil classifications not shown.

TABLE R404.1.1(2) R404.1.2.1(2) 8-INCH MASONRY FOUNDATION WALLS WITH REINFORCING WHERE $d \geq 5$ INCHES^{a, c, f}

MAXIMUM UNSUPPORTED WALL HEIGHT	HEIGHT OF UNBALANCED BACKFILL ^e	MINIMUM VERTICAL REINFORCEMENT AND SPACING (INCHES) ^{b, c}		
		Soil classes and lateral soil load ^d (psf per foot below grade)		
		GW, GP, SW and SP soils 30	GM, GC, SM, SM-SC and ML soils 45	SC, ML-CL and inorganic CL soils 60
6 feet 8 inches	4 feet (or less)	#4 at 48	#4 at 48	#4 at 48
	5 feet	#4 at 48	#4 at 48	#4 at 48
	6 feet 8 inches	#4 at 48	#5 at 48	#6 at 48
7 feet 4 inches	4 feet (or less)	#4 at 48	#4 at 48	#4 at 48
	5 feet	#4 at 48	#4 at 48	#4 at 48
	6 feet	#4 at 48	#5 at 48	#5 at 48
	7 feet 4 inches	#5 at 48	#6 at 48	#6 at 40
8 feet	4 feet (or less)	#4 at 48	#4 at 48	#4 at 48
	5 feet	#4 at 48	#4 at 48	#4 at 48
	6 feet	#4 at 48	#5 at 48	#5 at 48
	7 feet	#5 at 48	#6 at 48	#6 at 40
	8 feet	#5 at 48	#6 at 48	#6 at 32
8 feet 8 inches	4 feet (or less)	#4 at 48	#4 at 48	#4 at 48
	5 feet	#4 at 48	#4 at 48	#5 at 48
	6 feet	#4 at 48	#5 at 48	#6 at 48
	7 feet	#5 at 48	#6 at 48	#6 at 40
	8 feet 8 inches	#6 at 48	#6 at 32	#6 at 24
9 feet 4 inches	4 feet (or less)	#4 at 48	#4 at 48	#4 at 48
	5 feet	#4 at 48	#4 at 48	#5 at 48
	6 feet	#4 at 48	#5 at 48	#6 at 48
	7 feet	#5 at 48	#6 at 48	#6 at 40
	8 feet	#6 at 48	#6 at 40	#6 at 24
	9 feet 4 inches	#6 at 40	#6 at 24	#6 at 16
10 feet	4 feet (or less)	#4 at 48	#4 at 48	#4 at 48
	5 feet	#4 at 48	#4 at 48	#5 at 48
	6 feet	#4 at 48	#5 at 48	#6 at 48
	7 feet	#5 at 48	#6 at 48	#6 at 32
	8 feet	#6 at 48	#6 at 32	#6 at 24
	9 feet	#6 at 40	#6 at 24	#6 at 16
	10 feet	#6 at 32	#6 at 16	#6 at 16

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.157 kPa/mm.

- a. Mortar shall be Type M or S and masonry shall be laid in running bond.
- b. Alternative reinforcing bar sizes and spacings having an equivalent cross-sectional area of reinforcement per lineal foot of wall shall be permitted provided the spacing of the reinforcement does not exceed 72 inches in Seismic Design Categories A, B and C, and 48 inches in Seismic Design Categories D₀, D₁ and D₂.
- c. Vertical reinforcement shall be Grade 60 minimum. The distance, *d*, from the face of the soil side of the wall to the center of vertical reinforcement shall be not less than 5 inches.
- d. Soil classes are in accordance with the Unified Soil Classification System and design lateral soil loads are for moist conditions without hydrostatic pressure. Refer to Table R405.1.

- e. Unbalanced backfill height is the difference in height between the exterior finish ground level and the lower of the top of the concrete footing that supports the foundation wall or the interior finish ground level. Where an interior concrete slab-on-grade is provided and is in contact with the interior surface of the foundation wall, measurement of the unbalanced backfill height from the exterior finish ground level to the top of the interior concrete slab is permitted.
- f. The use of this table shall be prohibited for soil classifications not shown.

TABLE R404.1.1(3) R404.1.2.1(3) 10-INCH MASONRY FOUNDATION WALLS WITH REINFORCING WHERE $d \geq 6.75$ INCHES^{a, c},

f

MAXIMUM UNSUPPORTED WALL HEIGHT	HEIGHT OF UNBALANCED BACKFILL ^e	MINIMUM VERTICAL REINFORCEMENT AND SPACING (INCHES) ^{b, c}		
		Soil classes and later soil load ^d (psf per foot below grade)		
		GW, GP, SW and SP soils 30	GM, GC, SM, SM-SC and ML soils 45	SC, ML-CL and inorganic CL soils 60
6 feet 8 inches	4 feet (or less)	#4 at 56	#4 at 56	#4 at 56
	5 feet	#4 at 56	#4 at 56	#4 at 56
	6 feet 8 inches	#4 at 56	#5 at 56	#5 at 56
7 feet 4 inches	4 feet (or less)	#4 at 56	#4 at 56	#4 at 56
	5 feet	#4 at 56	#4 at 56	#4 at 56
	6 feet	#4 at 56	#4 at 56	#5 at 56
	7 feet 4 inches	#4 at 56	#5 at 56	#6 at 56
8 feet	4 feet (or less)	#4 at 56	#4 at 56	#4 at 56
	5 feet	#4 at 56	#4 at 56	#4 at 56
	6 feet	#4 at 56	#4 at 56	#5 at 56
	7 feet	#4 at 56	#5 at 56	#6 at 56
	8 feet	#5 at 56	#6 at 56	#6 at 48
8 feet 8 inches	4 feet (or less)	#4 at 56	#4 at 56	#4 at 56
	5 feet	#4 at 56	#4 at 56	#4 at 56
	6 feet	#4 at 56	#4 at 56	#5 at 56
	7 feet	#4 at 56	#5 at 56	#6 at 56
	8 feet 8 inches	#5 at 56	#6 at 48	#6 at 32
9 feet 4 inches	4 feet (or less)	#4 at 56	#4 at 56	#4 at 56
	5 feet	#4 at 56	#4 at 56	#4 at 56
	6 feet	#4 at 56	#5 at 56	#5 at 56
	7 feet	#4 at 56	#5 at 56	#6 at 56
	8 feet	#5 at 56	#6 at 56	#6 at 40
	9 feet 4 inches	#6 at 56	#6 at 40	#6 at 24
10 feet	4 feet (or less)	#4 at 56	#4 at 56	#4 at 56
	5 feet	#4 at 56	#4 at 56	#4 at 56
	6 feet	#4 at 56	#5 at 56	#5 at 56
	7 feet	#5 at 56	#6 at 56	#6 at 48
	8 feet	#5 at 56	#6 at 48	#6 at 40
	9 feet	#6 at 56	#6 at 40	#6 at 24
	10 feet	#6 at 48	#6 at 32	#6 at 24

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.157 kPa/mm.

- a. Mortar shall be Type M or S and masonry shall be laid in running bond.
- b. Alternative reinforcing bar sizes and spacings having an equivalent cross-sectional area of reinforcement per lineal foot of wall shall be permitted provided the spacing of the reinforcement does not exceed 72 inches in *Seismic Design Categories A, B and C*, and 48 inches in *Seismic Design Categories D₀, D₁ and D₂*.
- c. Vertical reinforcement shall be Grade 60 minimum. The distance, *d*, from the face of the soil side of the wall to the center of vertical reinforcement shall be not less than 6.75 inches.
- d. Soil classes are in accordance with the Unified Soil Classification System and design lateral soil loads are for moist conditions without hydrostatic pressure. Refer to Table R405.1.

- e. Unbalanced backfill height is the difference in height between the exterior finish ground level and the lower of the top of the concrete footing that supports the foundation wall or the interior finish ground level. Where an interior concrete slab-on-grade is provided and is in contact with the interior surface of the foundation wall, measurement of the unbalanced backfill height from the exterior finish ground level to the top of the interior concrete slab is permitted.
- f. The use of this table shall be prohibited for soil classifications not shown.

TABLE R404.1.1(4) R404.1.2.1(4) 12-INCH MASONRY FOUNDATION WALLS WITH REINFORCING WHERE $d \geq 8.75$ INCHES^{a, c},

f

MAXIMUM UNSUPPORTED WALL HEIGHT	HEIGHT OF UNBALANCED BACKFILL ^e	MINIMUM VERTICAL REINFORCEMENT AND SPACING (INCHES) ^{b, c}		
		Soil classes and lateral soil load ^d (psf per foot below grade)		
		GW, GP, SW and SP soils 30	GM, GC, SM, SM-SC and ML soils 45	SC, ML-CL and inorganic CL soils 60
6 feet 8 inches	4 feet (or less)	#4 at 72	#4 at 72	#4 at 72
	5 feet	#4 at 72	#4 at 72	#4 at 72
	6 feet 8 inches	#4 at 72	#4 at 72	#5 at 72
7 feet 4 inches	4 feet (or less)	#4 at 72	#4 at 72	#4 at 72
	5 feet	#4 at 72	#4 at 72	#4 at 72
	6 feet	#4 at 72	#4 at 72	#5 at 72
	7 feet 4 inches	#4 at 72	#5 at 72	#6 at 72
8 feet	4 feet (or less)	#4 at 72	#4 at 72	#4 at 72
	5 feet	#4 at 72	#4 at 72	#4 at 72
	6 feet	#4 at 72	#4 at 72	#5 at 72
	7 feet	#4 at 72	#5 at 72	#6 at 72
	8 feet	#5 at 72	#6 at 72	#6 at 64
8 feet 8 inches	4 feet (or less)	#4 at 72	#4 at 72	#4 at 72
	5 feet	#4 at 72	#4 at 72	#4 at 72
	6 feet	#4 at 72	#4 at 72	#5 at 72
	7 feet	#4 at 72	#5 at 72	#6 at 72
	8 feet 8 inches	#5 at 72	#7 at 72	#6 at 48
9 feet 4 inches	4 feet (or less)	#4 at 72	#4 at 72	#4 at 72
	5 feet	#4 at 72	#4 at 72	#4 at 72
	6 feet	#4 at 72	#5 at 72	#5 at 72
	7 feet	#4 at 72	#5 at 72	#6 at 72
	8 feet	#5 at 72	#6 at 72	#6 at 56
	9 feet 4 inches	#6 at 72	#6 at 48	#6 at 40
10 feet	4 feet (or less)	#4 at 72	#4 at 72	#4 at 72
	5 feet	#4 at 72	#4 at 72	#4 at 72
	6 feet	#4 at 72	#5 at 72	#5 at 72
	7 feet	#4 at 72	#6 at 72	#6 at 72
	8 feet	#5 at 72	#6 at 72	#6 at 48
	9 feet	#6 at 72	#6 at 56	#6 at 40
	10 feet	#6 at 64	#6 at 40	#6 at 32

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.157 kPa/mm.

- a. Mortar shall be Type M or S and masonry shall be laid in running bond.
- b. Alternative reinforcing bar sizes and spacings having an equivalent cross-sectional area of reinforcement per lineal foot of wall shall be permitted provided the spacing of the reinforcement does not exceed 72 inches in Seismic Design Categories A, B and C, and 48 inches in Seismic Design Categories D₀, D₁ and D₂.
- c. Vertical reinforcement shall be Grade 60 minimum. The distance, *d*, from the face of the soil side of the wall to the center of vertical reinforcement shall be not less than 8.75 inches.
- d. Soil classes are in accordance with the Unified Soil Classification System and design lateral soil loads are for moist conditions without hydrostatic pressure. Refer to Table R405.1.

- e. Unbalanced backfill height is the difference in height between the exterior finish ground level and the lower of the top of the concrete footing that supports the foundation wall or the interior finish ground levels. Where an interior concrete slab-on-grade is provided and in contact with the interior surface of the foundation wall, measurement of the unbalanced backfill height is permitted to be measured from the exterior finish ground level to the top of the interior concrete slab is permitted.
- f. The use of this table shall be prohibited for soil classifications not shown.

R404.1.3.2 Reinforcement for foundation walls. Concrete foundation walls shall be laterally supported at the top and bottom. Horizontal reinforcement shall be provided in accordance with Table ~~R404.1.2(1)~~ R404.1.3.2(1). Vertical reinforcement shall be provided in accordance with Table ~~R404.1.2(2)~~ R404.1.3.2(2), ~~R404.1.2(3)~~ R404.1.3.2(3), ~~R404.1.2(4)~~ R404.1.3.2(4), ~~R404.1.2(5)~~ R404.1.3.2(5), ~~R404.1.2(6)~~ R404.1.3.2(6), ~~R404.1.2(7)~~ R404.1.3.2(7) or ~~R404.1.2(8)~~ R404.1.3.2(8). Vertical reinforcement for flat *basement* walls retaining 4 feet (1219 mm) or more of unbalanced backfill is permitted to be determined in accordance with Table ~~R404.1.2(9)~~ R404.1.3.2(9). For *basement* walls supporting above-grade concrete walls, vertical reinforcement shall be the greater of that required by Tables ~~R404.1.2(2)~~ R404.1.3.2(2) through ~~R404.1.2(8)~~ R404.1.3.2(8) or by Section R608.6 for the above-grade wall. In buildings assigned to Seismic Design Category D₀, D₁ or D₂, concrete foundation walls shall also comply with Section R404.1.4.2.

TABLE ~~R404.1.2(1)~~ R404.1.3.2(1) MINIMUM HORIZONTAL REINFORCEMENT FOR CONCRETE BASEMENT WALLS^{a, b}

MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	LOCATION OF HORIZONTAL REINFORCEMENT
≤ 8	One No. 4 bar within 12 inches of the top of the wall story and one No. 4 bar near mid-height of the wall story.
> 8	One No. 4 bar within 12 inches of the top of the wall story and one No. 4 bar near third points in the wall story.

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square inch = 6.895 kPa.

- a. Horizontal reinforcement requirements are for reinforcing bars with a minimum yield strength of 40,000 psi and concrete with a minimum concrete compressive strength of 2,500 psi.
- b. See Section R404.1.3.2 for minimum reinforcement required for foundation walls supporting above-grade concrete walls.

**TABLE ~~R404.1.2(2)~~ R404.1.3.2(2) MINIMUM VERTICAL REINFORCEMENT FOR 6-INCH NOMINAL FLAT CONCRETE
BASEMENT WALLS^{b, c, d, e, g, h, i, j, k}**

MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT ^f (feet)	MINIMUM VERTICAL REINFORCEMENT-BAR SIZE AND SPACING (inches)		
		Soil classes ^a and design lateral soil (psf per foot of depth)		
		GW, GP, SW, SP 30	GM, GC, SM, SM-SC and ML 45	SC, ML-CL and inorganic CL 60
8	4	NR	NR	NR
	5	NR	6 @ 39	6 @ 48
	6	5 @ 39	6 @ 48	6 @ 35
	7	6 @ 48	6 @ 34	6 @ 25
	8	6 @ 39	6 @ 25	6 @ 18
9	4	NR	NR	NR
	5	NR	5 @ 37	6 @ 48
	6	5 @ 36	6 @ 44	6 @ 32
	7	6 @ 47	6 @ 30	6 @ 22
	8	6 @ 34	6 @ 22	6 @ 16
	9	6 @ 27	6 @ 17	DR
10	4	NR	NR	NR
	5	NR	5 @ 35	6 @ 48
	6	6 @ 48	6 @ 41	6 @ 30
	7	6 @ 43	6 @ 28	6 @ 20
	8	6 @ 31	6 @ 20	DR
	9	6 @ 24	6 @ 15	DR
	10	6 @ 19	DR	DR

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.1571 kPa²/m, 1 pound per square inch = 6.895 kPa.

NR = Not Required.

DR = Design Required.

- a. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.
- b. Table values are based on reinforcing bars with a minimum yield strength of 60,000 psi concrete with a minimum specified compressive strength of 2,500 psi and vertical reinforcement being located at the centerline of the wall. See Section R404.1.3.3.7.2.
- c. Vertical reinforcement with a yield strength of less than 60,000 psi and bars of a different size than specified in the table are permitted in accordance with Section R404.1.3.3.7.6 and Table ~~R404.1.2(9)~~ R404.1.3.2(9).
- d. Deflection criterion is $L/240$, where L is the height of the basement wall in inches.
- e. Interpolation is not permitted.
- f. Where walls will retain 4 feet or more of unbalanced backfill, they shall be laterally supported at the top and bottom before backfilling.
- g. NR indicates vertical wall reinforcement is not required, except for 6-inch-nominal walls formed with stay-in-place forming systems in which case vertical reinforcement shall be No. 4@48 inches on center.
- h. See Section R404.1.3.2 for minimum reinforcement required for basement walls supporting above-grade concrete walls.
- i. See Table R608.3 for tolerance from nominal thickness permitted for flat walls.
- j. DR means design is required in accordance with the applicable building code, or in the absence of a code, in accordance with ACI 318.
- k. The use of this table shall be prohibited for soil classifications not shown.

TABLE ~~R404.1.2(3)~~ R404.1.3.2(3) MINIMUM VERTICAL REINFORCEMENT FOR 8-INCH (203 mm) NOMINAL FLAT CONCRETE BASEMENT WALLS^{b, c, d, e, f, h, i, j}

MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT ^g (feet)	MINIMUM VERTICAL REINFORCEMENT-BAR SIZE AND SPACING (inches)		
		Soil classes ^a and design lateral soil (psf per foot of depth)		
		GW, GP, SW, SP 30	GM, GC, SM, SM-SC and ML 45	SC, ML-CL and inorganic CL 60
8	4	NR	NR	NR
	5	NR	NR	NR
	6	NR	NR	6 @ 37
	7	NR	6 @ 36	6 @ 35
	8	6 @ 41	6 @ 35	6 @ 26
9	4	NR	NR	NR
	5	NR	NR	NR
	6	NR	NR	6 @ 35
	7	NR	6 @ 35	6 @ 32
	8	6 @ 36	6 @ 32	6 @ 23
	9	6 @ 35	6 @ 25	6 @ 18
10	4	NR	NR	NR
	5	NR	NR	NR
	6	NR	NR	6 @ 35
	7	NR	6 @ 35	6 @ 29
	8	6 @ 35	6 @ 29	6 @ 21
	9	6 @ 34	6 @ 22	6 @ 16
	10	6 @ 27	6 @ 17	6 @ 13

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.1571 kPa²/m, 1 pound per square inch = 6.895 kPa.

NR = Not Required.

- a. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.
- b. Table values are based on reinforcing bars with a minimum yield strength of 60,000 psi, concrete with a minimum specified compressive strength of 2,500 psi and vertical reinforcement being located at the centerline of the wall. See Section R404.1.3.3.7.2.
- c. Vertical reinforcement with a yield strength of less than 60,000 psi and bars of a different size than specified in the table are permitted in accordance with Section R404.1.3.3.7.6 and Table ~~R404.1.2(9)~~ R404.1.3.2(9).
- d. NR indicates vertical reinforcement is not required.
- e. Deflection criterion is $L/240$, where L is the height of the basement wall in inches.
- f. Interpolation is not permitted.
- g. Where walls will retain 4 feet or more of unbalanced backfill, they shall be laterally supported at the top and bottom before backfilling.
- h. See Section R404.1.3.2 for minimum reinforcement required for basement walls supporting above-grade concrete walls.
- i. See Table R608.3 for tolerance from nominal thickness permitted for flat walls.
- j. The use of this table shall be prohibited for soil classifications not shown.

TABLE ~~R404.1.2(4)~~ R404.1.3.2(4) MINIMUM VERTICAL REINFORCEMENT FOR 10-INCH NOMINAL FLAT CONCRETE BASEMENT WALLS^{b, c, d, e, f, h, i, j}

MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT ^g (feet)	MINIMUM VERTICAL REINFORCEMENT-BAR SIZE AND SPACING (inches)		
		Soil classes ^a and design lateral soil (psf per foot of depth)		
		GW, GP, SW, SP 30	GM, GC, SM, SM-SC and ML 45	SC, ML-CL and inorganic CL 60
8	4	NR	NR	NR
	5	NR	NR	NR
	6	NR	NR	NR
	7	NR	NR	NR
	8	6 @ 48	6 @ 35	6 @ 28
9	4	NR	NR	NR
	5	NR	NR	NR
	6	NR	NR	NR
	7	NR	NR	6 @ 31
	8	NR	6 @ 31	6 @ 28
	9	6 @ 37	6 @ 28	6 @ 24
10	4	NR	NR	NR
	5	NR	NR	NR
	6	NR	NR	NR
	7	NR	NR	6 @ 28
	8	NR	6 @ 28	6 @ 28
	9	6 @ 33	6 @ 28	6 @ 21
	10	6 @ 28	6 @ 23	6 @ 17

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.1571 kPa²/m, 1 pound per square inch = 6.895 kPa.

NR = Not Required.

- a. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.
- b. Table values are based on reinforcing bars with a minimum yield strength of 60,000 psi concrete with a minimum specified compressive strength of 2,500 psi and vertical reinforcement being located at the centerline of the wall. See Section R404.1.3.3.7.2.
- c. Vertical reinforcement with a yield strength of less than 60,000 psi and bars of a different size than specified in the table are permitted in accordance with Section R404.1.3.3.7.6 and Table ~~R404.1.2(9)~~ R404.1.3.2(9).
- d. NR indicates vertical reinforcement is not required.
- e. Deflection criterion is $L/240$, where L is the height of the basement wall in inches.
- f. Interpolation is not permitted.
- g. Where walls will retain 4 feet or more of unbalanced backfill, they shall be laterally supported at the top and bottom before backfilling.
- h. See Section R404.1.3.2 for minimum reinforcement required for basement walls supporting above-grade concrete walls.
- i. See Table R608.3 for tolerance from nominal thickness permitted for flat walls.
- j. The use of this table shall be prohibited for soil classifications not shown.

TABLE R404.1.2(5) ~~R404.1.3.2(5)~~ MINIMUM VERTICAL WALL REINFORCEMENT FOR 6-INCH WAFFLE-GRID BASEMENT WALLS^{b, c, d, e, g, h, i, j}

MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT ^f (feet)	MINIMUM VERTICAL REINFORCEMENT-BAR SIZE AND SPACING (inches)		
		Soil classes ^a and design lateral soil (psf per foot of depth)		
		GW, GP, SW, SP 30	GM, GC, SM, SM-SC and ML 45	SC, ML-CL and inorganic CL 60
8	4	4 @ 48	4 @ 46	6 @ 39
	5	4 @ 45	5 @ 46	6 @ 47
	6	5 @ 45	6 @ 40	DR
	7	6 @ 44	DR	DR
	8	6 @ 32	DR	DR
9	4	4 @ 48	4 @ 46	4 @ 37
	5	4 @ 42	5 @ 43	6 @ 44
	6	5 @ 41	6 @ 37	DR
	7	6 @ 39	DR	DR
	> 8	DR ⁱ	DR	DR
10	4	4 @ 48	4 @ 46	4 @ 35
	5	4 @ 40	5 @ 40	6 @ 41
	6	5 @ 38	6 @ 34	DR
	7	6 @ 36	DR	DR
	> 8	DR	DR	DR

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.1571 kPa²/m, 1 pound per square inch = 6.895 kPa.

DR = Design Required.

- a. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.
- b. Table values are based on reinforcing bars with a minimum yield strength of 60,000 psi concrete with a minimum specified compressive strength of 2,500 psi and vertical reinforcement being located at the centerline of the wall. See Section R404.1.3.3.7.2.
- c. Maximum spacings shown are the values calculated for the specified bar size. Where the bar used is Grade 60 and the size specified in the table, the actual spacing in the wall shall not exceed a whole-number multiple of 12 inches (12, 24, 36 and 48) that is less than or equal to the tabulated spacing. Vertical reinforcement with a yield strength of less than 60,000 psi and bars of a different size than specified in the table are permitted in accordance with Section R404.1.3.3.7.6 and Table ~~R404.1.2(9)~~ ~~R404.1.3.2(9)~~.
- d. Deflection criterion is $L/240$, where L is the height of the basement wall in inches.
- e. Interpolation is not permitted.
- f. Where walls will retain 4 feet or more of unbalanced backfill, they shall be laterally supported at the top and bottom before backfilling.
- g. See Section R404.1.3.2 for minimum reinforcement required for basement walls supporting above-grade concrete walls.
- h. See Table R608.3 for thicknesses and dimensions of waffle-grid walls.
- i. DR means design is required in accordance with the applicable building code, or in the absence of a code, in accordance with ACI 318.
- j. The use of this table shall be prohibited for soil classifications not shown.

**TABLE ~~R404.1.2(6)~~ R404.1.3.2(6) MINIMUM VERTICAL REINFORCEMENT FOR 8-INCH WAFFLE-GRID BASEMENT WALLS^{b, c,}
d, e, f, h, i, j, k**

MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT ^g (feet)	MINIMUM VERTICAL REINFORCEMENT-BAR SIZE AND SPACING (inches)		
		Soil classes ^a and design lateral soil (psf per foot of depth)		
		GW, GP, SW, SP 30	GM, GC, SM, SM-SC and ML 45	SC, ML-CL and inorganic CL 60
8	4	NR	NR	NR
	5	NR	5 @ 48	5 @ 46
	6	5 @ 48	5 @ 43	6 @ 45
	7	5 @ 46	6 @ 43	6 @ 31
	8	6 @ 48	6 @ 32	6 @ 23
9	4	NR	NR	NR
	5	NR	5 @ 47	5 @ 46
	6	5 @ 46	5 @ 39	6 @ 41
	7	5 @ 42	6 @ 38	6 @ 28
	8	6 @ 44	6 @ 28	6 @ 20
	9	6 @ 34	6 @ 21	DR
10	4	NR	NR	NR
	5	NR	5 @ 46	5 @ 44
	6	5 @ 46	5 @ 37	6 @ 38
	7	5 @ 38	6 @ 35	6 @ 25
	8	6 @ 39	6 @ 25	DR
	9	6 @ 30	DR	DR
	10	6 @ 24	DR	DR

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.1571 kPa²/m, 1 pound per square inch = 6.895 kPa.

NR = Not Required.

DR = Design Required.

- a. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.
- b. Table values are based on reinforcing bars with a minimum yield strength of 60,000 psi concrete with a minimum specified compressive strength of 2,500 psi and vertical reinforcement being located at the centerline of the wall. See Section R404.1.3.3.7.2.
- c. Maximum spacings shown are the values calculated for the specified bar size. Where the bar used is Grade 60 (420 MPa) and the size specified in the table, the actual spacing in the wall shall not exceed a whole-number multiple of 12 inches (12, 24, 36 and 48) that is less than or equal to the tabulated spacing. Vertical reinforcement with a yield strength of less than 60,000 psi and bars of a different size than specified in the table are permitted in accordance with Section R404.1.3.3.7.6 and Table ~~R404.1.2(9)~~ R404.1.3.2(9).
- d. NR indicates vertical reinforcement is not required.
- e. Deflection criterion is $L/240$, where L is the height of the basement wall in inches.
- f. Interpolation shall not be permitted.
- g. Where walls will retain 4 feet or more of unbalanced backfill, they shall be laterally supported at the top and bottom before backfilling.
- h. See Section R404.1.3.2 for minimum reinforcement required for basement walls supporting above-grade concrete walls.
- i. See Table R608.3 for thicknesses and dimensions of waffle-grid walls.
- j. DR means design is required in accordance with the applicable building code, or in the absence of a code, in accordance with ACI 318.
- k. The use of this table shall be prohibited for soil classifications not shown.

TABLE R404.1.2(7) ~~R404.1.3.2(7)~~ MINIMUM VERTICAL REINFORCEMENT FOR 6-INCH (152 mm) SCREEN-GRID BASEMENT WALLS^{b, c, d, e, g, h, i, j}

MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT ^f (feet)	MINIMUM VERTICAL REINFORCEMENT-BAR SIZE AND SPACING (inches)		
		Soil classes ^a and design lateral soil (psf per foot of depth)		
		GW, GP, SW, SP 30	GM, GC, SM, SM-SC and ML 45	SC, ML-CL and inorganic CL 60
8	4	4 @ 48	4 @ 48	5 @ 43
	5	4 @ 48	5 @ 48	5 @ 37
	6	5 @ 48	6 @ 45	6 @ 32
	7	6 @ 48	DR	DR
	8	6 @ 36	DR	DR
9	4	4 @ 48	4 @ 48	4 @ 41
	5	4 @ 48	5 @ 48	6 @ 48
	6	5 @ 45	6 @ 41	DR
	7	6 @ 43	DR	DR
	> 8	DR	DR	DR
10	4	4 @ 48	4 @ 48	4 @ 39
	5	4 @ 44	5 @ 44	6 @ 46
	6	5 @ 42	6 @ 38	DR
	7	6 @ 40	DR	DR
	> 8	DR	DR	DR

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.1571 kPa²/m, 1 pound per square inch = 6.895 kPa.

DR = Design Required.

- a. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.
- b. Table values are based on reinforcing bars with a minimum yield strength of 60,000 psi, concrete with a minimum specified compressive strength of 2,500 psi and vertical reinforcement being located at the centerline of the wall. See Section R404.1.3.3.7.2.
- c. Maximum spacings shown are the values calculated for the specified bar size. Where the bar used is Grade 60 and the size specified in the table, the actual spacing in the wall shall not exceed a whole-number multiple of 12 inches (12, 24, 36 and 48) that is less than or equal to the tabulated spacing. Vertical reinforcement with a yield strength of less than 60,000 psi and bars of a different size than specified in the table are permitted in accordance with Section R404.1.3.3.7.6 and Table ~~R404.1.2(9)~~ R404.1.3.2(9).
- d. Deflection criterion is $L/240$, where L is the height of the basement wall in inches.
- e. Interpolation is not permitted.
- f. Where walls will retain 4 feet or more of unbalanced backfill, they shall be laterally supported at the top and bottom before backfilling.
- g. See Sections R404.1.3.2 for minimum reinforcement required for basement walls supporting above-grade concrete walls.
- h. See Table R608.3 for thicknesses and dimensions of screen-grid walls.
- i. DR means design is required in accordance with the applicable building code, or in the absence of a code, in accordance with ACI 318.
- j. The use of this table shall be prohibited for soil classifications not shown.

TABLE R404.1.2(8) R404.1.3.2(8) MINIMUM VERTICAL REINFORCEMENT FOR 6-, 8-, 10- AND 12-INCH NOMINAL FLAT BASEMENT WALLS^{b, c, d, e, f, h, i, k, n, o}

MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT ⁹ (feet)	MINIMUM VERTICAL REINFORCEMENT-BAR SIZE AND SPACING (inches)											
		Soil classes ^a and design lateral soil (psf per foot of depth)											
		GW, GP, SW, SP 30				GM, GC, SM, SM-SC and ML 45				SC, ML-CL and inorganic CL 60			
		Minimum nominal wall thickness (inches)											
		6	8	10	12	6	8	10	12	6	8	10	12
5	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	5	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
6	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	5	NR	NR	NR	NR	NR	NR ¹	NR	NR	4 @ 35	NR ¹	NR	NR
	6	NR	NR	NR	NR	5 @ 48	NR	NR	NR	5 @ 36	NR	NR	NR
7	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	5	NR	NR	NR	NR	NR	NR	NR	NR	5 @ 47	NR	NR	NR
	6	NR	NR	NR	NR	5 @ 42	NR	NR	NR	6 @ 43	5 @ 48	NR ¹	NR
	7	5 @ 46	NR	NR	NR	6 @ 42	5 @ 46	NR ¹	NR	6 @ 34	6 @ 48	NR	NR
8	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	5	NR	NR	NR	NR	4 @ 38	NR ¹	NR	NR	5 @ 43	NR	NR	NR
	6	4 @ 37	NR ¹	NR	NR	5 @ 37	NR	NR	NR	6 @ 37	5 @ 43	NR ¹	NR
	7	5 @ 40	NR	NR	NR	6 @ 37	5 @ 41	NR ¹	NR	6 @ 34	6 @ 43	NR	NR
	8	6 @ 43	5 @ 47	NR ¹	NR	6 @ 34	6 @ 43	NR	NR	6 @ 27	6 @ 32	6 @ 44	NR
9	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	5	NR	NR	NR	NR	4 @ 35	NR ¹	NR	NR	5 @ 40	NR	NR	NR
	6	4 @ 34	NR ¹	NR	NR	6 @ 48	NR	NR	NR	6 @ 36	6 @ 39	NR ¹	NR
	7	5 @ 36	NR	NR	NR	6 @ 34	5 @ 37	NR	NR	6 @ 33	6 @ 38	5 @ 37	NR ¹
	8	6 @ 38	5 @ 41	NR ¹	NR	6 @ 33	6 @ 38	5 @ 37	NR ¹	6 @ 24	6 @ 29	6 @ 39	4 @ 48 ^m
	9	6 @ 34	6 @ 46	NR	NR	6 @ 26	6 @ 30	6 @ 41	NR	6 @ 19	6 @ 23	6 @ 30	6 @ 39
	4	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	5	NR	NR	NR	NR	4 @ 33	NR ¹	NR	NR	5 @ 38	NR	NR	NR
	6	5 @ 48	NR ¹	NR	NR	6 @ 45	NR	NR	NR	6 @ 34	5 @ 37	NR	NR
	7	6 @ 47	NR	NR	NR	6 @ 34	6 @ 48	NR	NR	6 @ 30	6 @ 35	6 @ 48	NR ¹

10 MAXIMUM UNSUPPORTED WALL HEIGHT (feet)	MAXIMUM UNBALANCED BACKFILL HEIGHT (feet)	MINIMUM VERTICAL REINFORCEMENT-BAR SIZE AND SPACING (inches)											
		Soil classes and design lateral soil (psf per foot of depth)											
		GW, GP, SW, SP 30				GM, GC, SM, SM-SC and ML 45				SC, ML-CL and inorganic CL 60			
		Minimum nominal wall thickness (inches)											
		6	8	10	12	6	8	10	12	6	8	10	12
	8	6 @ 34	5 @ 38	NR	NR	6 @ 30	6 @ 34	6 @ 47	NR ⁱ	6 @ 22	6 @ 26	6 @ 35	6 @ 45 ^m
	9	6 @ 34	6 @ 41	4 @ 48	NR ⁱ	6 @ 23	6 @ 27	6 @ 35	4 @ 48 ^m	DR	6 @ 22	6 @ 27	6 @ 34
	10	6 @ 28	6 @ 33	6 @ 45	NR	DR ^j	6 @ 23	6 @ 29	6 @ 38	DR	6 @ 22	6 @ 22	6 @ 28

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot per foot = 0.1571 kPa²/m, 1 pound per square inch = 6.895 kPa.

NR = Not Required.

DR = Design Required.

- a. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.
- b. Table values are based on reinforcing bars with a minimum yield strength of 60,000 psi.
- c. Vertical reinforcement with a yield strength of less than 60,000 psi and bars of a different size than specified in the table are permitted in accordance with Section R404.1.3.3.7.6 and Table ~~R404.1.2(9)~~ R404.1.3.2(9).
- d. NR indicates vertical wall reinforcement is not required, except for 6-inch nominal walls formed with stay-in-place forming systems in which case vertical reinforcement shall be No. 4@48 inches on center.
- e. Allowable deflection criterion is $L/240$, where L is the unsupported height of the basement wall in inches.
- f. Interpolation is not permitted.
- g. Where walls will retain 4 feet or more of unbalanced backfill, they shall be laterally supported at the top and bottom before backfilling.
- h. Vertical reinforcement shall be located to provide a cover of $1\frac{1}{4}$ inches measured from the inside face of the wall. The center of the steel shall not vary from the specified location by more than the greater of 10 percent of the wall thickness or $\frac{3}{8}$ inch.
- i. Concrete cover for reinforcement measured from the inside face of the wall shall be not less than $\frac{3}{4}$ inch. Concrete cover for reinforcement measured from the outside face of the wall shall be not less than $1\frac{1}{2}$ inches for No. 5 bars and smaller, and not less than 2 inches for larger bars.
- j. DR means design is required in accordance with the applicable building code, or in the absence of a code, in accordance with ACI 318.
- k. Concrete shall have a specified compressive strength, f_c , of not less than 2,500 psi at 28 days, unless a higher strength is required by Note l or m.
- l. The minimum thickness is permitted to be reduced 2 inches, provided that the minimum specified compressive strength of concrete, f_c , is 4,000 psi.
- m. A plain concrete wall with a minimum nominal thickness of 12 inches is permitted, provided that the minimum specified compressive strength of concrete, f_c , is 3,500 psi.
- n. See Table R608.3 for tolerance from nominal thickness permitted for flat walls.
- o. The use of this table shall be prohibited for soil classifications not shown.

TABLE R404.1.2(9) R404.1.3.2(9) MINIMUM SPACING FOR ALTERNATE BAR SIZE AND ALTERNATE GRADE OF STEEL^{a, b, c}

BAR SPACING FROM APPLICABLE TABLE IN SECTION R404.1.3.2 (inches)	BAR SIZE FROM APPLICABLE TABLE IN SECTION R404.1.3.2																	
	#4					#5					#6							
	Alternate bar size and alternate grade of steel desired																	
	Grade 60			Grade 40			Grade 60			Grade 40			Grade 60			Grade 40		
	#5	#6	#4	#5	#6	#4	#6	#4	#5	#6	#4	#5	#4	#5	#6			
	Maximum spacing for alternate bar size and alternate grade of steel (inches)																	
8	12	18	5	8	12	5	11	3	5	8	4	6	2	4	5			
9	14	20	6	9	13	6	13	4	6	9	4	6	3	4	6			
10	16	22	7	10	15	6	14	4	7	9	5	7	3	5	7			
11	17	24	7	11	16	7	16	5	7	10	5	8	3	5	7			
12	19	26	8	12	18	8	17	5	8	11	5	8	4	6	8			
13	20	29	9	13	19	8	18	6	9	12	6	9	4	6	9			
14	22	31	9	14	21	9	20	6	9	13	6	10	4	7	9			
15	23	33	10	16	22	10	21	6	10	14	7	11	5	7	10			
16	25	35	11	17	23	10	23	7	11	15	7	11	5	8	11			
17	26	37	11	18	25	11	24	7	11	16	8	12	5	8	11			
18	28	40	12	19	26	12	26	8	12	17	8	13	5	8	12			
19	29	42	13	20	28	12	27	8	13	18	9	13	6	9	13			
20	31	44	13	21	29	13	28	9	13	19	9	14	6	9	13			
21	33	46	14	22	31	14	30	9	14	20	10	15	6	10	14			
22	34	48	15	23	32	14	31	9	15	21	10	16	7	10	15			
23	36	48	15	24	34	15	33	10	15	22	10	16	7	11	15			
24	37	48	16	25	35	15	34	10	16	23	11	17	7	11	16			
25	39	48	17	26	37	16	35	11	17	24	11	18	8	12	17			
26	40	48	17	27	38	17	37	11	17	25	12	18	8	12	17			
27	42	48	18	28	40	17	38	12	18	26	12	19	8	13	18			
28	43	48	19	29	41	18	40	12	19	26	13	20	8	13	19			
29	45	48	19	30	43	19	41	12	19	27	13	20	9	14	19			
30	47	48	20	31	44	19	43	13	20	28	14	21	9	14	20			
31	48	48	21	32	45	20	44	13	21	29	14	22	9	15	21			
32	48	48	21	33	47	21	45	14	21	30	15	23	10	15	21			
33	48	48	22	34	48	21	47	14	22	31	15	23	10	16	22			
34	48	48	23	35	48	22	48	15	23	32	15	24	10	16	23			
35	48	48	23	36	48	23	48	15	23	33	16	25	11	16	23			
36	48	48	24	37	48	23	48	15	24	34	16	25	11	17	24			
37	48	48	25	38	48	24	48	16	25	35	17	26	11	17	25			
38	48	48	25	39	48	25	48	16	25	36	17	27	12	18	25			
39	48	48	26	40	48	25	48	17	26	37	18	27	12	18	26			
40	48	48	27	41	48	26	48	17	27	38	18	28	12	19	27			
41	48	48	27	42	48	26	48	18	27	39	19	29	12	19	27			
42	48	48	28	43	48	27	48	18	28	40	19	30	13	20	28			
43	48	48	29	44	48	28	48	18	29	41	20	30	13	20	29			
44	48	48	29	45	48	28	48	19	29	42	20	31	13	21	29			
45	48	48	30	47	48	29	48	19	30	43	20	32	14	21	30			

BAR SPACING FROM APPLICABLE TABLE IN SECTION R404.1.3.2 (inches)	BAR SIZE FROM APPLICABLE TABLE IN SECTION R404.1.3.2																	
	#4					#5					#6							
	Alternate bar size and alternate grade of steel desired																	
	Grade 60			Grade 40			Grade 60			Grade 40			Grade 60			Grade 40		
	#5	#6	#4	#5	#6	#4	#6	#4	#5	#6	#4	#5	#6	#4	#5	#6		
	Maximum spacing for alternate bar size and alternate grade of steel (inches)																	
46	48	48	31	48	48	30	48	20	31	44	21	32	14	22	31			
47	48	48	31	48	48	30	48	20	31	44	21	33	14	22	31			
48	48	48	32	48	48	31	48	21	32	45	22	34	15	23	32			

For SI: 1 inch = 25.4 mm.

- This table is for use with tables in Section R404.1.3.2 that specify the minimum bar size and maximum spacing of vertical wall reinforcement for foundation walls and above-grade walls. Reinforcement specified in tables in Section R404.1.3.2 is based on Grade 60 steel reinforcement.
- Bar spacing shall not exceed 48 inches on center and shall be not less than one-half the nominal wall thickness.
- For Grade 50 steel bars (ASTM A996, Type R), use spacing for Grade 40 bars or interpolate between Grades 40 and 60.

R404.1.3.3.7.2 Location of reinforcement in wall. The center of vertical reinforcement in *basement* walls determined from Tables ~~R404.1.2(2)~~ R404.1.3.2(2) through ~~R404.1.2(7)~~ R404.1.3.2(7) shall be located at the centerline of the wall. Vertical reinforcement in *basement* walls determined from Table ~~R404.1.2(8)~~ R404.1.3.2(8) shall be located to provide a maximum cover of 1¹/₄ inches (32 mm) measured from the inside face of the wall. Regardless of the table used to determine vertical wall reinforcement, the center of the steel shall not vary from the specified location by more than the greater of 10 percent of the wall thickness and ³/₈ inch (10 mm). Horizontal and vertical reinforcement shall be located in foundation walls to provide the minimum cover required by Section R404.1.3.3.7.4.

R404.1.3.3.7.6 Alternate grade of reinforcement and spacing. Where tables in Section R404.1.3.2 specify vertical wall reinforcement based on minimum bar size and maximum spacing, which are based on Grade 60 (414 MPa) steel reinforcement, different size bars or bars made from a different grade of steel are permitted provided that an equivalent area of steel per linear foot of wall is provided. Use of Table ~~R404.1.2(9)~~ R404.1.3.2(9) is permitted to determine the maximum bar spacing for different bar sizes than specified in the tables or bars made from a different grade of steel. Bars shall not be spaced less than one-half the wall thickness, or more than 48 inches (1219 mm) on center.

R404.1.4.1 Masonry foundation walls. In buildings assigned to Seismic Design Category D₀, D₁ or D₂, as established in Table R301.2, masonry foundation walls shall comply with this section. In addition to the requirements of Table ~~R404.1.1(1)~~ R404.1.2.1(1), plain masonry foundation walls shall comply with the following:

- Wall height shall not exceed 8 feet (2438 mm).
- Unbalanced backfill height shall not exceed 4 feet (1219 mm).
- Minimum nominal thickness for plain masonry foundation walls shall be 8 inches (203 mm).
- Masonry stem walls shall have a minimum vertical reinforcement of one No. 4 (No. 13) bar located not greater than 4 feet (1219 mm) on center in grouted cells. Vertical reinforcement shall be tied to the horizontal reinforcement in the footings.

Foundation walls, supporting more than 4 feet (1219 mm) of unbalanced backfill or exceeding 8 feet (2438 mm) in height shall be constructed in accordance with Table ~~R404.1.1(2)~~ R404.1.2.1(2), ~~R404.1.1(3)~~ R404.1.2.1(3) or ~~R404.1.1(4)~~ R404.1.2.1(4). Masonry foundation walls shall have two No. 4 (No. 13) horizontal bars located in the upper 12 inches (305 mm) of the wall.

R404.1.4.2 Concrete foundation walls. In buildings assigned to Seismic Design Category D₀, D₁ or D₂, as established in Table R301.2, concrete foundation walls that support light-frame walls shall comply with this section, and concrete foundation walls that support above-grade concrete walls shall comply with ACI 318, ACI 332 or PCA 100 (see Section R404.1.3). In addition to the horizontal reinforcement required by Table ~~R404.1.2(1)~~ R404.1.3.2(1), plain concrete walls supporting light-frame walls shall comply with the following:

- Wall height shall not exceed 8 feet (2438 mm).
- Unbalanced backfill height shall not exceed 4 feet (1219 mm).
- Minimum thickness for plain concrete foundation walls shall be 7.5 inches (191 mm) except that 6 inches (152 mm) is permitted where the maximum wall height is 4 feet, 6 inches (1372 mm).

Foundation walls less than 7.5 inches (191 mm) in thickness, supporting more than 4 feet (1219 mm) of unbalanced backfill or exceeding 8 feet

(2438 mm) in height shall be provided with horizontal reinforcement in accordance with Table ~~R404.1.2(1)~~-R404.1.3.2(1), and vertical reinforcement in accordance with Table ~~R404.1.2(2)~~-R404.1.3.2(2), ~~R404.1.2(3)~~-R404.1.3.2(3), ~~R404.1.2(4)~~-R404.1.3.2(4), ~~R404.1.2(5)~~-R404.1.3.2(5), ~~R404.1.2(6)~~-R404.1.3.2(6), ~~R404.1.2(7)~~-R404.1.3.2(7) or ~~R404.1.2(8)~~-R404.1.3.2(8). Where Tables ~~R404.1.2(2)~~-R404.1.3.2(2) through ~~R404.1.2(8)~~-R404.1.3.2(8) permit plain concrete walls, not less than No. 4 (No. 13) vertical bars at a spacing not exceeding 48 inches (1219 mm) shall be provided.

R404.1.5.2 Concrete wall thickness. The thickness of concrete foundation walls shall be equal to or greater than the thickness of the wall in the story above. Concrete foundation walls with corbels, brackets or other projections built into the wall for support of masonry veneer or other purposes are not within the scope of the tables in this section. Where a concrete foundation wall is reduced in thickness to provide a shelf for the support of masonry veneer, the reduced thickness shall be equal to or greater than the thickness of the wall in the story above. Vertical reinforcement for the foundation wall shall be based on Table ~~R404.1.2(8)~~-R404.1.3.2(8) and located in the wall as required by Section R404.1.3.3.7.2 where that table is used. Vertical reinforcement shall be based on the thickness of the thinner portion of the wall.

Exception: Where the height of the reduced thickness portion measured to the underside of the floor assembly or sill plate above is less than or equal to 24 inches (610 mm) and the reduction in thickness does not exceed 4 inches (102 mm), the vertical reinforcement is permitted to be based on the thicker portion of the wall.

Reason: This proposal fixes the masonry and concrete tables issue in IRC 2021. Currently, the masonry tables are listed under R404.1.1 Design required for general concrete and masonry accepted engineering practice, which is inaccurate. The concrete tables are listed under R404.1.2 Design of masonry foundation walls which is not accurate. This proposal relocates the tables to the correct technical sections they belong to. All Masonry tables moved to section R404.1.2.1 Masonry foundation walls, and all concrete tables moved to section R404.1.3.2 Reinforcement for foundation walls.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

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Cost Impact: The code change proposal will not increase or decrease the cost of construction

The proponent is proposing the relocation of the tables. The tables are relocated under the first related subsections mentioned in the code. The proposal does not make any technical changes in the tables that could affect construction costs.

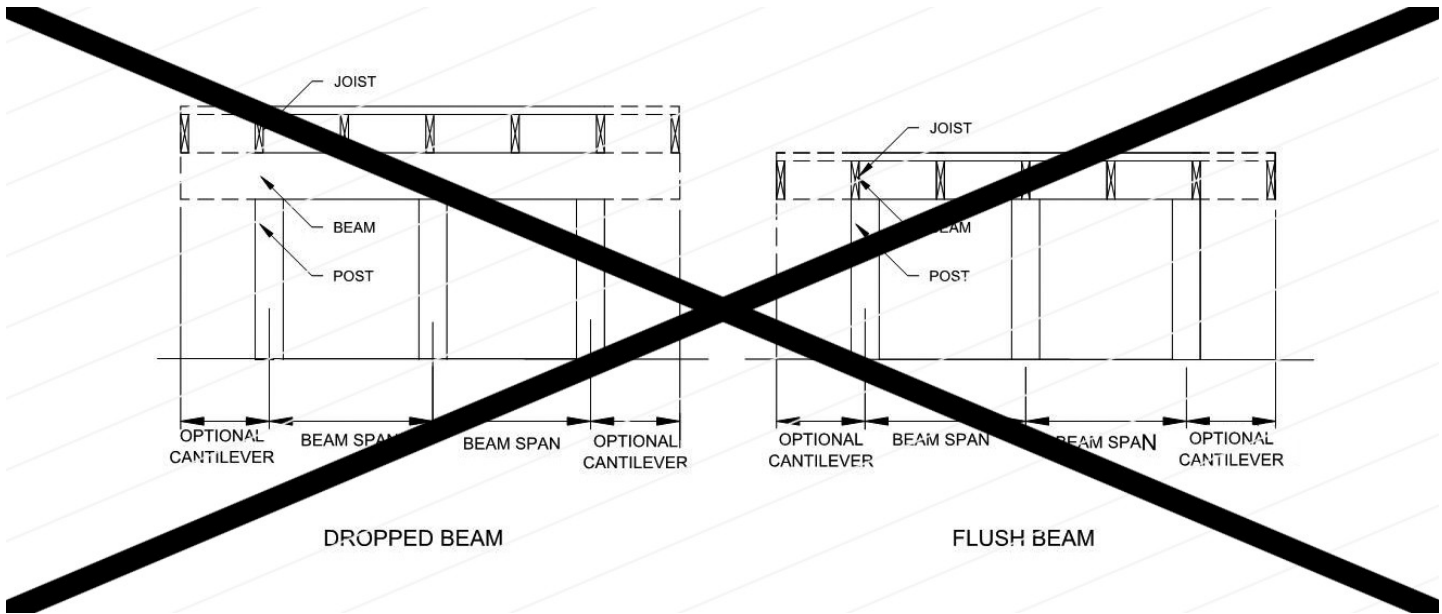
RB182-22

IRC: FIGURE R507.5

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

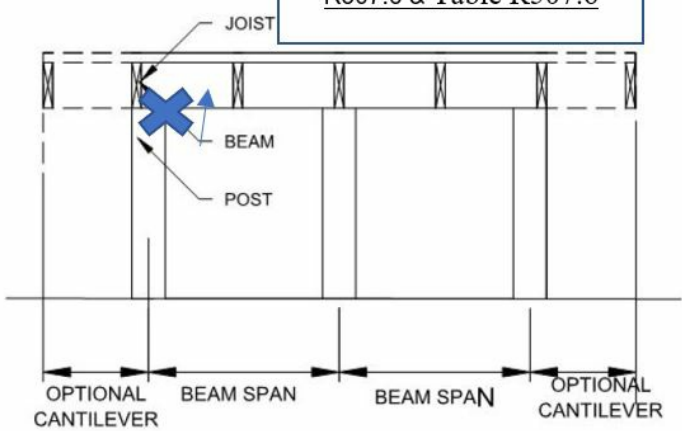
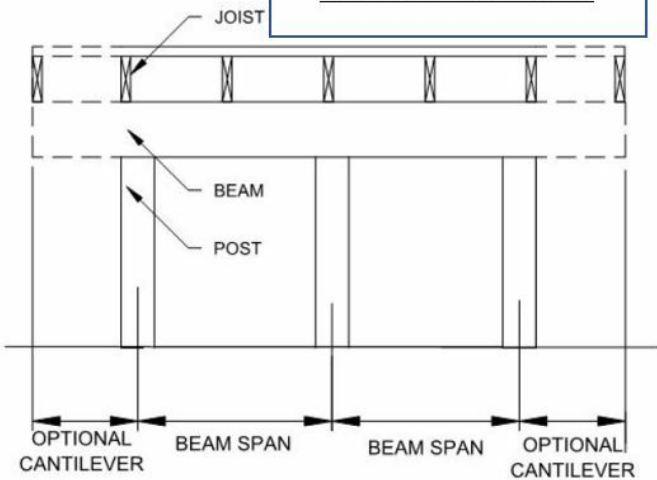
2021 International Residential Code

Revise as follows:



For spans of wood
deck joists See FIGURE
R507.6 & Table R507.6

For spans of wood
deck joists See FIGURE
R507.6 & Table R507.6



DROPPED BEAM

FLUSH BEAM

FIGURE R507.5 TYPICAL DECK JOIST BEAM SPANS

Reason: This proposal clarifies that FIGURE R507.5 shows TYPICAL DECK BEAM SPANS, not TYPICAL DECK JOIST SPANS. It also references the code users to the correct figure and table for TYPICAL DECK JOIST-SPANS by adding “For spans of wood deck joists See FIGURE R507.6 & Table R507.6”. Also, the arrow of the beam is pointing to the joist, which is not correct. Therefore, the proposal changes the pointer to the beam to point to the beam.
This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is a clarification only for the requirements for wood deck joist in Figure R507.5.

RB191-22

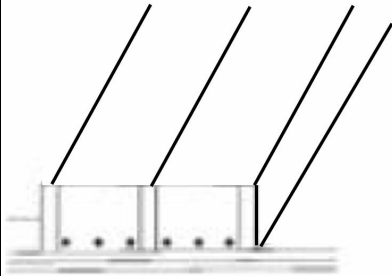
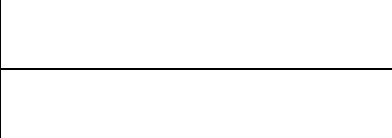





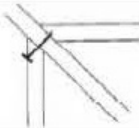
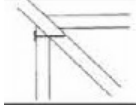


IRC: TABLE R602.3(1)

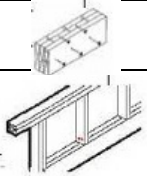
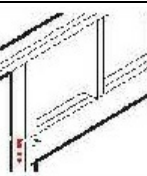
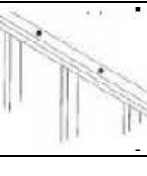

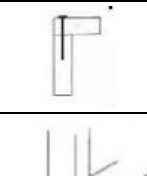
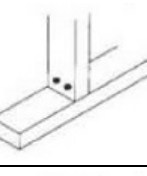
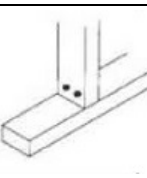
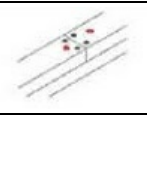

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

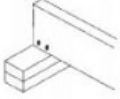

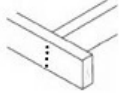
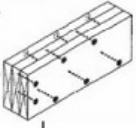
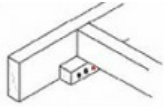

2021 International Residential Code

Revise as follows:

TABLE R602.3(1) FASTENING SCHEDULE

DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION	
Roof			
Blocking between ceiling joists, rafters or trusses to top plate or other framing below	4-8d box (2 ¹ / ₂ " × 0.113"); or 3-8d common (2 ¹ / ₂ " × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail	
Blocking between rafters or truss not at the wall top plates, to rafter or truss	2-8d common (2 ¹ / ₂ " × 0.131"); or 2-3" × 0.131" nails	Each end toe nail	
	2-16d common (3 ¹ / ₂ " × 0.162"); or 3-3" × 0.131" nails	End nail	
Flat blocking to truss and web filler	16d common (3 ¹ / ₂ " × 0.162"); or (3" × 0.131" nails	6" o.c. face nail	
Ceiling joists to top plate	4-8d box (2 ¹ / ₂ " × 0.113"); or 3-8d common (2 ¹ / ₂ " × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Per joist, toe nail	
Ceiling joist not attached to parallel rafter, laps over partitions [see Section R802.5.2 and Table R802.5.2(1)]	4-10d box (3" × 0.128"); or 3-16d common (3 ¹ / ₂ " × 0.162"); or 4-3" × 0.131" nails	Face nail	
Ceiling joist attached to parallel rafter (heel joint) [see Section R802.5.2 and Table R802.5.2(1)]	Table R802.5.2(1)	Face nail	
Collar tie to rafter, face nail	4-10d box (3" × 0.128"); or 3-10d common (3" × 0.148"); or 4-3" × 0.131" nails	Face nail each rafter	
Rafter or roof truss to plate	3-16d box (3 ¹ / ₂ " × 0.135"); or 3-10d common (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss ¹	
Roof rafters to ridge, valley or hip rafters or roof rafter to minimum 2" ridge beam	4-16d box (3 ¹ / ₂ " × 0.135"); or 3-10d common (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail	
	3-16d box (3 ¹ / ₂ " × 0.135"); or 2-16d common (3 ¹ / ₂ " × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	End nail	
Wall			
Stud to stud (not at braced wall panels)	16d common (3 ¹ / ₂ " × 0.162")	24" o.c. face nail	
	10d box (3" × 0.128"); or 3" × 0.131" nails	16" o.c. face nail	
Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d box (3 ¹ / ₂ " × 0.135"); or 3" × 0.131" nails	12" o.c. face nail	
	16d common (3 ¹ / ₂ " × 0.162")	16" o.c. face nail	
Built-up header (2" to 2" header with	16d common (3 ¹ / ₂ " × 0.162")	16" o.c. each edge face nail	
	16d box (3 ¹ / ₂ " × 0.135")	12" o.c. each edge face nail	

DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION	
Continuous header to stud	5-8d box (2 1/2" x 0.113"); or 4-8d common (2 1/2" x 0.131"); or 4-10d box (3" x 0.128")	Toe nail	
Adjacent full-height stud to end of header	4-16d box (3 1/2" x 0.135"); or 3-16d common (3 1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails	End nail	
Top plate to top plate	16d common (3 1/2" x 0.162")	16" o.c. face nail	
	10d box (3" x 0.128"); or 3" x 0.131" nails	12" o.c. face nail	
Double top plate splice	8-16d common (3 1/2" x 0.162"); or 12-16d box (3 1/2" x 0.135"); or 12-10d box (3" x 0.128"); or 12-3" x 0.131" nails	Face nail on each side of end joint (minimum 24" lap splice length each side of end joint)	
Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d common (3 1/2" x 0.162")	16" o.c. face nail	
	16d box (3 1/2" x 0.135"); or 3" x 0.131" nails	12" o.c. face nail	
Bottom plate to joist, rim joist, band joist or blocking (at braced wall panel)	3-16d box (3 1/2" x 0.135"); or 2-16d common (3 1/2" x 0.162"); or 4-3" x 0.131" nails	16" o.c. face nail	
Top or bottom plate to stud	4-8d box (2 1/2" x 0.113"); or 3-16d box (3 1/2" x 0.135"); or 4-8d common (2 1/2" x 0.131"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails	Toe nail	
	3-16d box (3 1/2" x 0.135"); or 2-16d common (3 1/2" x 0.162"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails	End nail	
Top plates, laps at corners and intersections	3-10d box (3" x 0.128"); or 2-16d common (3 1/2" x 0.162"); or 3-3" x 0.131" nails	Face nail	
1" brace to each stud and plate	3-8d box (2 1/2" x 0.113"); or 2-8d common (2 1/2" x 0.131"); or 2-(3" x 0.131"); or 2-10d box (3" x 0.128")	Face nail	
1" x 6" sheathing to each bearing	3-8d box (2 1/2" x 0.113"); or 2-8d common (2 1/2" x 0.131"); or 2-10d box (3" x 0.128"); or 2 staples, 1" crown, 16 ga., 1 3/4" long	Face nail	
	3-8d box (2 1/2" x 0.113"); or 3-8d common (2 1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 3 staples, 1" crown, 16 ga., 1 3/4" long		

DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION		
1" x 8" and wider sheathing to high bearing	Wider than 1" x 8" 4-8d box (2 1/2" x 0.113"); or 3-8d common (2 1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 4 staples, 1" crown, 16 ga., 1 3/4" long	Face nail		
Floor				
Joist to sill, top plate or girder	4-8d box (2 1/2" x 0.113"); or 3-8d common (2 1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails	Toe nail		
Rim joist, band joist or blocking to sill or top plate (roof applications also)	8d box (2 1/2" x 0.113") 8d common (2 1/2" x 0.131"); or 10d box (3" x 0.128"); or 3" x 0.131" nails	4" o.c. toe nail 6" o.c. toe nail		
1" x 6" subfloor or less to each joist	3-8d box (2 1/2" x 0.113"); or 2-8d common (2 1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 2 staples, 1" crown, 16 ga., 1 3/4" long	Face nail		
Floor				
2" subfloor to joist or girder	3-16d box (3 1/2" x 0.135"); or 2-16d common (3 1/2" x 0.162")	Blind and face nail		
2" planks (plank & beam—floor & roof)	3-16d box (3 1/2" x 0.135"); or 2-16d common (3 1/2" x 0.162")	At each bearing, face nail		
Band or rim joist to joist	3-16d common (3 1/2" x 0.162"); or 4-10 box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" x 14 ga. staples, 7/16" crown	End nail		
Built-up girders and beams, 2-inch lumber layers	20d common (4" x 0.192"); or	Nail each layer as follows: 32" o.c. at top and bottom and staggered.		
	10d box (3" x 0.128"); or 3" x 0.131" nails	24" o.c. face nail at top and bottom staggered on opposite sides		
	And: 2-20d common (4" x 0.192"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails	Face nail at ends and at each splice		
Ledger strip supporting joists or rafters	4-16d box (3 1/2" x 0.135"); or 3-16d common (3 1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails	At each joist or rafter, face nail		
Bridging or blocking to joist, rafter or truss	2-10d box (3" x 0.128"); or 2-8d common (2 1/2" x 0.131"); or 2-3" x 0.131" nails	Each end, toe nail		
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING OF FASTENERS		
		Edges ^h (inches)	Intermediate supports ^c (inches)	
Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing [see Table R602.3(3) for wood structural panel exterior wall sheathing to wall framing]				

DESCRIPTION OF BUILDING ELEMENTSsss	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION		
3/8" – 1/2"	6d common or deformed (2" × 0.113" × 0.266" head); 2 3/8" × 0.113" × 0.266" head nail (subfloor, wall) ⁱ	6	6 ^f	
	8d common (2 1/2" × 0.131") nail (roof); or RSRS-01 (2 3/8" × 0.113") nail (roof) ^b	6	6 ^f	
19/32" – 3/4"	8d common (2-2 1/2" × 0.131") nail (subfloor, wall)	6	12	
	8d common (2 1/2" × 0.131") nail (roof); or RSRS-01; (2 3/8" × 0.113") nail (roof) ^b	6	6 ^f	
	Deformed 2 3/8" × 0.113" × 0.266" head (wall or subfloor)	6	12	
7/8" – 1 1/4"	10d common (3" × 0.148") nail; or (2 1/2" × 0.131 × 0.281" head) deformed nail	6	12	
Other wall sheathing^g				
1/2" structural cellulosic fiberboard sheathing	1 1/2" × 0.120" galvanized roofing nail, 7/16" head diameter, or 1 1/4" long 16 ga. staple with 7/16" or 1" crown	3	6	
25/32" structural cellulosic fiberboard sheathing	1 3/4" × 0.120" galvanized roofing nail, 7/16" head diameter, or 1 1/4" long 16 ga. staple with 7/16" or 1" crown	3	6	
1/2" gypsum sheathing ^d	1 1/2" × 0.120" galvanized roofing nail, 7/16" head diameter, or 1 1/4" long 16 ga.; staple galvanized, 1 1/2" long; 7/16" or 1" crown or 1 1/4" screws, Type W or S	7	7	
5/8" gypsum sheathing ^d	1 3/4" × 0.120" galvanized roofing nail, 7/16" head diameter, or 1 1/4" long 16 ga.; staple galvanized, 1 1/2" long; 7/16" or 1" crown or 1 1/4" screws, Type W or S	7	7	
Wood structural panels, combination subfloor underlayment to framing				
3/4" and less	Deformed (2" × 0.113") or Deformed (2" × 0.120") nail; or 8d common (2 1/2" × 0.131") nail	6	12	
7/8" – 1"	8d common (2 1/2" × 0.131") nail; or Deformed (2 1/2" × 0.131"); or Deformed (2 1/2" × 0.120") nail	6	12	
1 1/8" – 1 1/4"	10d common (3" × 0.148") nail; or Deformed (2 1/2" × 0.131"); or Deformed (2 1/2" × 0.120") nail	6	12	

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s; 1 ksi = 6.895 MPa.

- a. Nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections are carbon steel and shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less. Connections using nails and staples of other materials, such as stainless steel, shall be designed by accepted engineering practice or approved under Section R104.11.
- b. RSRS-01 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667.
- c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.
- d. Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically.
- e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).
- f. For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 4 inches on center where the ultimate design wind speed is greater than 130 mph in Exposure B or greater than 110 mph in Exposure C.
- g. Gypsum sheathing shall conform to ASTM C1396 and shall be installed in accordance with ASTM C1280 or GA 253. Fiberboard sheathing shall conform to ASTM C208.
- h. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.
- i. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.
- j. The sketches shown in this column are for illustration purposes only. Refer to the "NUMBER AND TYPE OF FASTENER" column of this table for the actual requirements.

Reason: This proposal adds sketches clarifying the connecting building elements used in wood-framed construction described in table R602.3(1) FASTENING SCHEDULE. The proposal also adds a footnote explaining that "The sketches shown in this column are for illustration purposes only. Refer to the "NUMBER AND TYPE OF FASTENER" column of this table for the actual requirements. This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

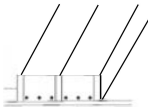
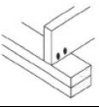




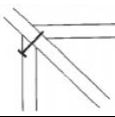




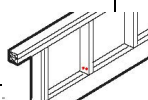
Cost Impact: The code change proposal will not increase or decrease the cost of construction. The graphics are a visual clarification for existing requirements.

Attached Files

- **updated fig- cdp-C #21-Update-Table R602.3(1) with figures.pdf**
<https://cdpaccess.com/proposal/8511/24827/files/download/2974/>

WALL CONSTRUCTION

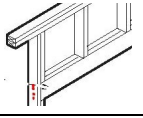



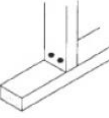

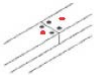



**TABLE R602.3(1)
FASTENING SCHEDULE**

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION
Roof			
1	Blocking between ceiling joists, rafters or trusses to top plate or other framing below	4-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail 
	Blocking between rafters or truss not at the wall top plates, to rafter or truss	2-8d common (2½" × 0.131"); or 2-3" × 0.131" nails	Each end toe nail
		2-16d common (3½" × 0.162"); or 3-3" × 0.131" nails	End nail
	Flat blocking to truss and web filler	16d common (3½" × 0.162"); or 3" × 0.131" nails	6" o.c. face nail
2	Ceiling joists to top plate	4-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Per joist, toe nail 
3	Ceiling joist not attached to parallel rafter, laps over partitions [see Section R802.5.2 and Table R802.5.2(1)]	4-10d box (3" × 0.128"); or 3-16d common (3½" × 0.162"); or 4-3" × 0.131" nails	Face nail 
4	Ceiling joist attached to parallel rafter (heel joint) [see Section R802.5.2 and Table R802.5.2(1)]	Table R802.5.2(1)	Face nail 
5	Collar tie to rafter, face nail	4-10d box (3" × 0.128"); or 3-10d common (3" × 0.148"); or 4-3" × 0.131" nails	Face nail each rafter 
6	Rafter or roof truss to plate	3-16d box (3½" × 0.135"); or 3-10d common (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss ⁱ 
7	Roof rafters to ridge, valley or hip rafters or roof rafter to minimum 2" ridge beam	4-16d box (3½" × 0.135"); or 3-10d common (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail 
		3-16d box (3½" × 0.135"); or 2-16d common (3½" × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	End nail 
Wall			
8	Stud to stud (not at braced wall panels)	16d common (3½" × 0.162")	24" o.c. face nail 
		10d box (3" × 0.128"); or 3" × 0.131" nails	16" o.c. face nail
9	Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d box (3½" × 0.135"); or 3" × 0.131" nails	12" o.c. face nail 
		16d common (3½" × 0.162")	16" o.c. face nail
10	Built-up header (2" to 2" header with ½" spacer)	16d common (3½" × 0.162")	16" o.c. each edge face nail 
		16d box (3½" × 0.135")	12" o.c. each edge face nail
11	Continuous header to stud	5-8d box (2½" × 0.113"); or 4-8d common (2½" × 0.131"); or 4-10d box (3" × 0.128")	Toe nail 

(continued)

WALL CONSTRUCTION

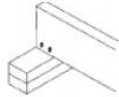

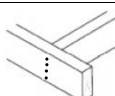
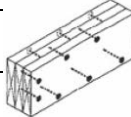
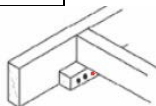

TABLE R602.3(1)—continued
FASTENING SCHEDULE

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION
Wall			
12	Adjacent full-height stud to end of header	4-16d box (3½" × 0.135"); or 3-16d common (3½" × 0.162"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	End nail 
13	Top plate to top plate	16d common (3½" × 0.162")	16" o.c. face nail
		10d box (3" × 0.128"); or 3" × 0.131" nails	12" o.c. face nail 
14	Double top plate splice	8-16d common (3½" × 0.162"); or 12-16d box (3½" × 0.135"); or 12-10d box (3" × 0.128"); or 12-3" × 0.131" nails	Face nail on each side of end joint (minimum 24" lap splice length each side of end joint)
15	Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d common (3½" × 0.162")	16" o.c. face nail
		16d box (3½" × 0.135"); or 3" × 0.131" nails	12" o.c. face nail 
Roof			
16	Bottom plate to joist, rim joist, band joist or blocking (at braced wall panel)	3-16d box (3½" × 0.135"); or 2-16d common (3½" × 0.162"); or 4-3" × 0.131" nails	16" o.c. face nail 
17	Top or bottom plate to stud	4-8d box (2½" × 0.113"); or 3-16d box (3½" × 0.135"); or 4-8d common (2½" × 0.131"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail 
		3-16d box (3½" × 0.135"); or 2-16d common (3½" × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	End nail 
18	Top plates, laps at corners and intersections	3-10d box (3" × 0.128"); or 2-16d common (3½" × 0.162"); or 3-3" × 0.131" nails	Face nail 
19	1" brace to each stud and plate	3-8d box (2½" × 0.113"); or 2-8d common (2½" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples 1¾"	Face nail 
20	1" × 6" sheathing to each bearing	3-8d box (2½" × 0.113"); or 2-8d common (2½" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1¾" long	Face nail 
21	1" × 8" and wider sheathing to each bearing	3-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 3 staples, 1" crown, 16 ga., 1¾" long	Face nail 
		Wider than 1" × 8" 4-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 4 staples, 1" crown, 16 ga., 1¾" long	

Delete this row.

(continued)

**TABLE R602.3(1)—continued
FASTENING SCHEDULE**

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION	
Floor				
22	Joist to sill, top plate or girder	4-8d box (2½" × 0.113"); or 3-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Toe nail	
23	Rim joist, band joist or blocking to sill or top plate (roof applications also)	8d box (2½" × 0.113")	4" o.c. toe nail	
		8d common (2½" × 0.131"); or 10d box (3" × 0.128"); or 3" × 0.131" nails	6" o.c. toe nail	
24	1" × 6" subfloor or less to each joist	3-8d box (2½" × 0.113"); or 2-8d common (2½" × 0.131"); or 3-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1¾" long	Face nail	
25	2" subfloor to joist or girder	3-16d box (3½" × 0.135"); or 2-16d common (3½" × 0.162")	Blind and face nail	
26	2" planks (plank & beam—floor & roof)	3-16d box (3½" × 0.135"); or 2-16d common (3½" × 0.162")	At each bearing, face nail	
27	Band or rim joist to joist	3-16d common (3½" × 0.162"); or 4-10 box (3" × 0.128"); or 4-3" × 0.131" nails; or 4-3" × 14 ga. staples, 7/16" crown	End nail	
28	Built-up girders and beams, 2-inch lumber layers	20d common (4" × 0.192"); or 10d box (3" × 0.128"); or 3" × 0.131" nails	Nail each layer as follows: 32" o.c. at top and bottom and staggered.	
		And: 2-20d common (4" × 0.192"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	24" o.c. face nail at top and bottom staggered on opposite sides	
		Face nail at ends and at each splice		
29	Ledger strip supporting joists or rafters	4-16d box (3½" × 0.135"); or 3-16d common (3½" × 0.162"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	At each joist or rafter, face nail	
30	Bridging or blocking to joist, rafter or truss	2-10d box (3" × 0.128"); or 2-8d common (2½" × 0.131"); or 3" × 0.131" nails	Each end, toe nail	
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING OF FASTENERS	
			Edges ^h (inches)	Intermediate supports ^{c, e} (inches)
Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing [see Table R602.3(3) for wood structural panel exterior wall sheathing to wall framing]				
31	¾" - 1½"	6d common or deformed (2" × 0.113" × 0.266" head); or 2¾" × 0.113" × 0.266" head nail (subfloor, wall) ⁱ	6	6 ^f
		8d common (2½" × 0.131") nail (roof); or RSRS-01 (2¾" × 0.113") nail (roof) ^b	6	6 ^f
32	19/32" - ¾"	8d common (2-2½" × 0.131") nail (subfloor, wall)	6	12
		8d common (2½" × 0.131") nail (roof); or RSRS-01; (2¾" × 0.113") nail (roof) ^b	6	6 ^f
		Deformed 2¾" × 0.113" × 0.266" head (wall or subfloor)	6	12
33	7/8" - 1¼"	10d common (3" × 0.148") nail; or (2½" × 0.131" × 0.281" head) deformed nail	6	12

(continued)

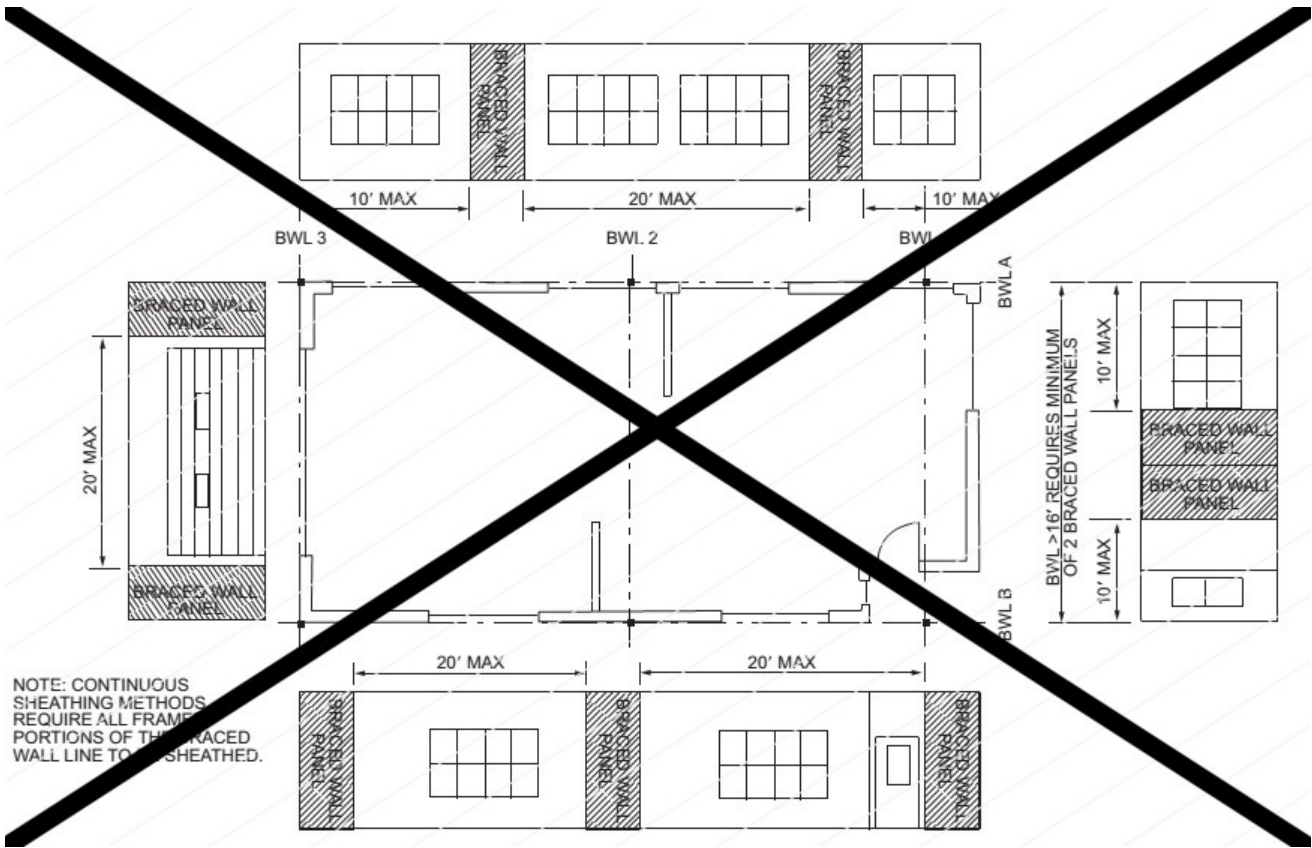
RB199-22

IRC: FIGURE R602.10.2.2

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

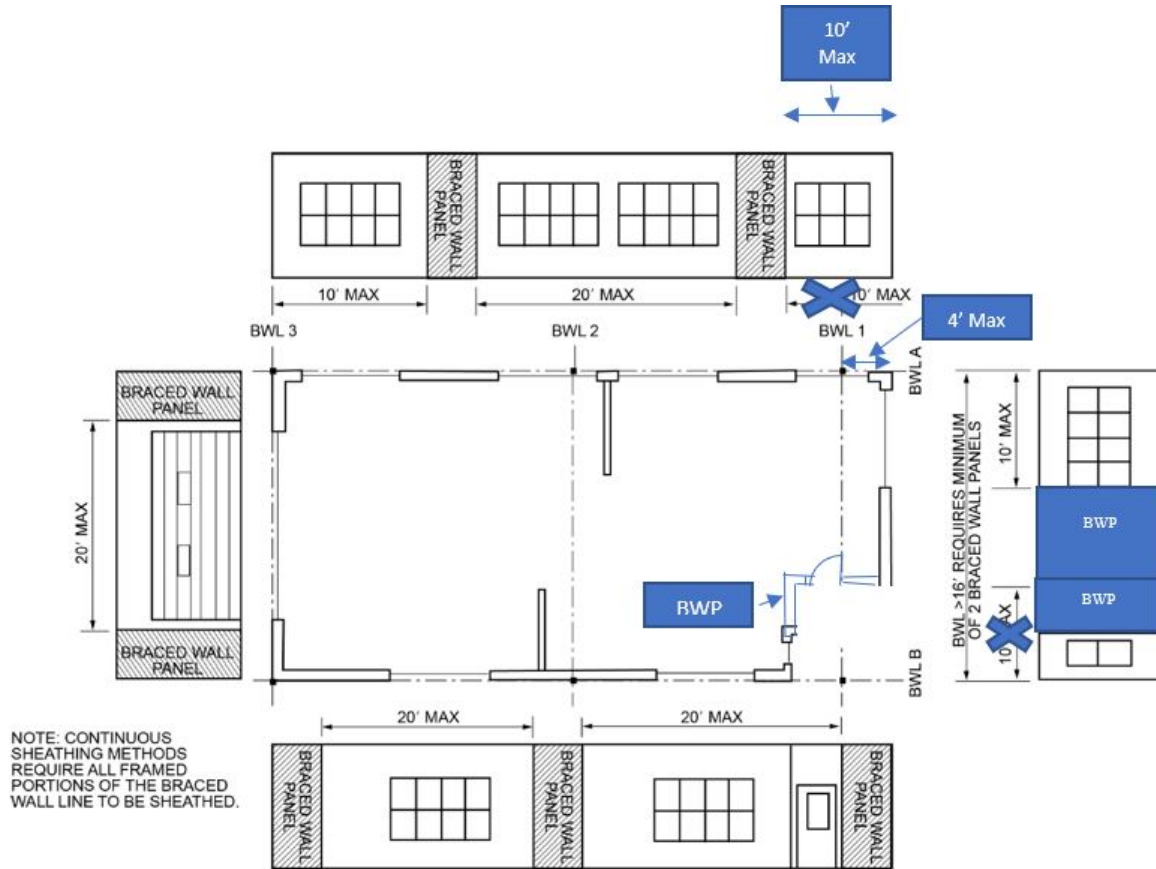
2021 International Residential Code

Delete and substitute as follows:



For SI: 1 foot = 304.8 mm.

FIGURE R602.10.2.2 LOCATION OF BRACED WALL PANELS



For SI: 1 foot = 304.8 mm.

FIGURE R602.10.2.2
LOCATION OF BRACED WALL PANELS

For SI: 1 foot = 304.8 mm.

FIGURE R602.10.2.2 LOCATION OF BRACED WALL PANELS

Reason: Figure R602.10.2.2 is no longer accurate with the change to BWL placement in IRC 2021 Section R602.10.1.2. This proposal corrects two graphical inaccuracies in Figure R602.10.2.2:

1. The 10' dimension along BWL A between the top right corner and BWL 1. Per R602.10.1.1, the 10' should be measured from the perpendicular wall at the end of the BWL, not the perpendicular BWL centerline. <= We found this while looking closely at the figure
2. BWL 1 was improperly shown with all panels on one side of BWL 1. Per R602.10.1.2, no more than 2/3 of the required braced wall panel length is allowed to be located on one side of the BWL. <= this was the 2021 change
3. In addition, the existing pair of side-by-side braced wall panels along BWL 1 were combined into one large braced wall panel. This was done to emphasize the requirement in Section R602.10.2.3 that a braced wall line greater than 16 feet in length must be provided with a minimum of two braced wall panels, regardless of the size of those panels. This change also eliminates the misconception that installation of 2 braced wall panels side-by-side in a > 16-foot BWL provides equal performance to having the 2 braced wall panels spaced further apart. Installation of side-by-side braced wall panels runs counter to the function and purpose of requiring a minimum of 2 braced wall panels in the longer BWLs.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal is a clarification change only; the intent is to update Figure R602.10.2.2 to match the updated requirements in IRC 2021 Section R602.10.1.2.

RB253-22

IRC: R324.4.2, R324.5.2, R703.6.3, R806.4, SECTION R901, R901.1, R901.2 (New), SECTION R902, R902.1, R902.2, R902.3, R902.4, SECTION R903, R903.1, R903.2, R903.2 (New), R903.2.2, R903.3, R903.3 (New), R903.4, R903.4 (New), R903.4.1, R905.7.5, R905.8.6, R908.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

SECTION R901 GENERAL

R901.1 Scope. The provisions of this chapter shall govern the design, materials, construction and quality of *roof assemblies*.

Add new text as follows:

R901.2 Roof covering. Roofs shall be covered with materials as set forth in Sections R904 and R905.

Revise as follows:

~~SECTION R903- R902~~ WEATHER PROTECTION

~~**R903-1- R902 .1 General.**~~ *Roof decks* shall be covered with *approved* roof coverings secured to the building or structure in accordance with the provisions of this chapter. *Roof assemblies* shall be designed and installed in accordance with this code and the *approved* manufacturer's instructions such that the *roof assembly* shall serve to protect the building or structure.

~~**R903-2- R902.2 Flashing.**~~ Flashings shall be installed in a manner that prevents moisture from entering the wall and roof through joints in copings, through moisture permeable materials and at intersections with parapet walls and other penetrations through the roof plane.

~~**R903-2-1- R902.2.1 Locations.**~~ Flashings shall be installed at wall and roof intersections, wherever there is a change in roof slope or direction and around roof openings. A flashing shall be installed to divert the water away from where the eave of a sloped roof intersects a vertical sidewall. Where flashing is of metal, the metal shall be corrosion resistant with a thickness of not less than 0.019 inch (0.5 mm) (No. 26 galvanized sheet).

~~**R903-2-2- R902.2.2 Crickets and saddles.**~~ A cricket or saddle shall be installed on the ridge side of any chimney or penetration more than 30 inches (762 mm) wide as measured perpendicular to the slope. Cricket or saddle coverings shall be sheet metal or of the same material as the roof covering.

Exception: *Unit skylights* installed in accordance with Section R308.6 and flashed in accordance with the manufacturer's instructions shall be permitted to be installed without a cricket or saddle.

~~**R903-3- R902.3 Coping.**~~ Parapet walls shall be properly coped with noncombustible, weatherproof materials of a width not less than the thickness of the parapet wall.

~~**R903-4- R902.4 Roof drainage.**~~ Unless roofs are sloped to drain over roof edges, roof drains shall be installed at each low point of the roof.

~~**R903-4-1- R902.4.1 Secondary (emergency overflow) drains or scuppers.**~~ Where roof drains are required, secondary emergency overflow roof drains or *scuppers* shall be provided where the roof perimeter construction extends above the roof in such a manner that water will be entrapped if the primary drains allow buildup for any reason. Overflow drains having the same size as the roof drains shall be installed with the inlet flow line located 2 inches (51 mm) above the low point of the roof, or overflow *scuppers* having three times the size of the roof drains and having a minimum opening height of 4 inches (102 mm) shall be installed in the adjacent parapet walls with the inlet flow located 2 inches (51 mm) above the low point of the roof served. The installation and sizing of overflow drains, leaders and conductors shall comply with Sections 1106 and 1108 of the International Plumbing Code, as applicable.

Overflow drains shall discharge to an *approved* location and shall not be connected to roof drain lines.

~~SECTION R902- R903~~ FIRE CLASSIFICATION

~~**R902-1- R903.1 Roof covering materials- General.**~~ ~~Roofs shall be covered with materials as set forth in Sections R904 and R905.~~ ~~Fire classification of roof assemblies shall be in accordance with Section R903, Class A, B or C~~ ~~roof assemblies and roof coverings~~ ~~roofing~~ shall be installed in *jurisdictions* designated by law as requiring their use or where the edge of the roof is less than 3 feet (914 mm) from a *lot line*. Class A, B and C ~~roof assemblies and roof coverings~~ ~~roofing~~ required ~~to be listed~~ by this section ~~to be listed~~ shall be tested in accordance with ASTM E108 or UL 790. In addition, fire-retardant-treated wood roof coverings shall be tested in accordance with ASTM D2898.

Exceptions:

1. ~~Class A roof assemblies include those with coverings of brick, masonry and exposed concrete roof deck.~~
2. ~~Class A roof assemblies include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile, or slate installed on noncombustible decks.~~
3. ~~Class A roof assemblies include minimum 16 ounces per square foot copper sheets installed over combustible decks.~~
4. ~~Class A roof assemblies include slate installed over underlayment over combustible decks.~~

Add new text as follows:

R903.2 Class A roof assemblies. Class A roof assemblies are those that are effective against severe fire test exposure. Class A roof assemblies and roof coverings shall be listed and identified as Class A by an approved testing agency. Class A roof assemblies shall be permitted for use in buildings or structures of all types of construction.

Exceptions:

1. Class A roof assemblies include those with coverings of brick, masonry or an exposed concrete roof deck.
2. Class A roof assemblies also include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile or slate installed on noncombustible decks or ferrous, copper or metal sheets installed without a roof deck on noncombustible framing.
3. Class A roof assemblies include minimum 16 ounce per square foot (0.0416 kg/m²) copper sheets installed over combustible decks.
4. Class A roof assemblies include slate installed over ASTM D226, Type II underlayment over combustible decks or ASTM D4869, Type IV.

R903.3 Class B roof assemblies. Class B roof assemblies are those that are effective against moderate fire-test exposure. Class B roof assemblies and roof coverings shall be listed and identified as Class B by an approved testing agency.

R903.4 Class C roof assemblies.

Class C roof assemblies are those that are effective against light fire-test exposure. Class C roof assemblies and roof coverings shall be listed and identified as Class C by an approved testing agency.

Revise as follows:

~~R902.2- R903.5~~ Fire-retardant-treated shingles and shakes. Fire-retardant-treated wood shakes and shingles shall be treated by impregnation with chemicals by the full-cell vacuum-pressure process, in accordance with AWP A C1. Each bundle shall be marked to identify the manufactured unit and the manufacturer, and shall be *labeled* to identify the classification of the material in accordance with the testing required in Section ~~R902.4- R903.1~~, the treating company and the quality control agency.

~~R902.3- R903.6~~ Building-integrated photovoltaic (BIPV) product . *Building-integrated photovoltaic (BIPV) products* installed as the roof covering shall be tested, *listed* and *labeled* for fire classification in accordance with UL 7103. Class A, B or C BIPV products shall be installed where required in accordance with Section R903.1, the edge of the roof is less than 3 feet (914 mm) from a lot line.

~~R902.4- R903.7~~ Rooftop-mounted photovoltaic (PV) panel systems. Rooftop-mounted *photovoltaic panel systems* installed on or above the roof covering shall be tested, *listed* and identified with a fire classification in accordance with UL 2703. Systems tested, listed and identified with a fire classification shall be installed in accordance with the manufacturer's installation instructions and their listing. Class A, B or C rooftop-mounted photovoltaic panel systems and modules shall be installed where required in accordance with Section R903.1 in jurisdictions designated by law as requiring their use or where the edge of the roof is less than 3 feet (914 mm) from a lot line.

~~R324.4.2~~ Fire classification. Rooftop-mounted *photovoltaic panel systems* shall have the same fire classification as the *roof assembly* required in Section ~~R902- R903~~.

~~R324.5.2~~ Fire classification. *Building-integrated photovoltaic systems* shall have a fire classification in accordance with Section ~~R902.3- R903.3~~.

~~R703.6.3~~ Attachment. Wood shakes or shingles shall be installed according to this chapter and the manufacturer's instructions. Each shake or shingle shall be held in place by two stainless steel Type 304, Type 316 or hot-dipped zinc-coated galvanized corrosion-resistant box nails in accordance with Table R703.6.3(1) or R703.6.3(2). The hot-dipped zinc-coated galvanizing shall be in compliance with ASTM A153, 1.0 ounce per square foot. Alternatively, 16-gage stainless steel Type 304 or Type 316 staples with crown widths $\frac{7}{16}$ inch (11 mm) minimum, $\frac{3}{4}$ inch (19 mm) maximum, shall be used and the crown of the staple shall be placed parallel with the butt of the shake or the shingle. In single-course application, the fasteners shall be concealed by the course above and shall be driven approximately 1 inch (25 mm) above the butt line of the succeeding course and $\frac{3}{4}$ inch (19 mm) from the edge. In double-course applications, the exposed shake or shingle shall be face-nailed with two fasteners, driven approximately 2 inches (51 mm) above the butt line and $\frac{3}{4}$ inch (19 mm) from each edge. Fasteners installed within 15 miles (24 km) of saltwater coastal areas shall be stainless steel Type 316. Fasteners for fire-retardant-treated shakes or shingles in accordance with Section ~~R902- R903~~ or pressure-impregnated-preservative-treated shakes or shingles in accordance with AWP A U1 shall be stainless steel Type 316. The fasteners shall penetrate the sheathing or furring strips by not less than $\frac{1}{2}$ inch (13 mm) and shall not be overdriven. Fasteners for untreated (natural) and treated products shall comply with ASTM F1667.

R806.4 Installation and weather protection. Ventilators shall be installed in accordance with manufacturer's instructions. Installation of ventilators in roof systems shall be in accordance with the requirements of Section ~~R903~~ R902. Installation of ventilators in wall systems shall be in accordance with the requirements of Section R703.1.

R905.7.5 Application. Wood shingles shall be installed in accordance with this chapter and the manufacturer's instructions. Wood shingles shall be laid with a side lap not less than 1½ inches (38 mm) between joints in courses, and two joints shall not be in direct alignment in any three adjacent courses. Spacing between shingles shall be not less than ¼ inch to ⅜ inch (6.4 mm to 9.5 mm). Weather exposure for wood shingles shall not exceed those set in Table R905.7.5(1). Fasteners for untreated (naturally durable) wood shingles shall be box nails in accordance with Table R905.7.5(2). Nails shall be stainless steel Type 304 or 316 or hot-dipped galvanized with a coating weight of ASTM A153 Class D (1.0 oz/ft²). Alternatively, two 16-gage stainless steel Type 304 or 316 staples with crown widths 7/16 inch (11.1 mm) minimum, ¾ inch (19.1 mm) maximum, shall be used. Fasteners installed within 15 miles (24 km) of saltwater coastal areas shall be stainless steel Type 316. Fasteners for fire-retardant-treated shingles in accordance with Section ~~R902~~ R903 or pressure-impregnated-preservative-treated shingles of naturally durable wood in accordance with AWPA U1 shall be stainless steel Type 316. Fasteners shall have a minimum penetration into the sheathing of ¾ inch (19.1 mm). For sheathing less than ¾ inch in (19.1 mm) thickness, each fastener shall penetrate through the sheathing. Wood shingles shall be attached to the roof with two fasteners per shingle, positioned in accordance with the manufacturer's installation instructions. Fastener packaging shall bear a *label* indicating the appropriate grade material or coating weight.

R905.8.6 Application. Wood shakes shall be installed in accordance with this chapter and the manufacturer's installation instructions. Wood shakes shall be laid with a side lap not less than 1½ inches (38 mm) between joints in adjacent courses. Spacing between shakes in the same course shall be ⅜ inch to ⅝ inch (9.5 mm to 15.9 mm) including tapersawn shakes. Weather exposures for wood shakes shall not exceed those set in Table R905.8.6. Fasteners for untreated (naturally durable) wood shakes shall be box nails in accordance with Table R905.7.5(2). Nails shall be stainless steel Type 304, or Type 316 or hot-dipped with a coating weight of ASTM A153 Class D (1.0 oz/ft²). Alternatively, two 16-gage Type 304 or Type 316 stainless steel staples, with crown widths 7/16 inch (11.1 mm) minimum, ¾ inch (19.1 mm) maximum, shall be used. Fasteners installed within 15 miles (24 km) of saltwater coastal areas shall be stainless steel Type 316. Wood shakes shall be attached to the roof with two fasteners per shake positioned in accordance with the manufacturer's installation instructions. Fasteners for fire-retardant-treated (as defined in Section ~~R902~~ R903) shakes or pressure-impregnated-preservative-treated shakes of *naturally durable wood* in accordance with AWPA U1 shall be stainless steel Type 316. Fasteners shall have a minimum penetration into the sheathing of ¾ inch (19.1 mm). Where the sheathing is less than ¾ inch (19.1 mm) thick, each fastener shall penetrate through the sheathing. Fastener packaging shall bear a *label* indicating the appropriate grade material or coating weight.

R908.1 General. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 9.

Exceptions:

1. *Reroofing* shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section R905 for roofs that provide *positive roof drainage*.
2. For roofs that provide positive drainage, recovering or replacing an existing roof covering shall not require the secondary (emergency overflow) drains or *scuppers* of Section ~~R903.4.1~~ R902 .4.1 to be added to an existing roof.

Reason: Reason: This proposal is intended to provide consistency and clarification within Section R902 Fire Classification. Section R902.1 has been revised several times since the initial 2000 IRC, and Sections R902.3 on BIPV and R902.4 on rooftop PV added recently. This proposal includes the below elements:

1) The first sentence of R902.1 "Roofs shall be covered with materials as set forth in Sections R904 and R905" is relocated to a new subsection under R901 using the same text. This requirement applies to all roofs, not only ones where a fire classification is required. While the first sentence of R903.1 under Weather Protection similarly requires all roof decks to be provided with approved roof coverings, it was felt best to state right from the start that roof assemblies are expected to have roof coverings, and that material and installation requirements can be found in R904 and R905 respectively.

2) Since R902.1 is generic to all roof covering materials and specifies when and where Class A, B or C roofing is required, it is not necessary to restate in R902.3 and R902.4 where such classifications are required. The redundant requirements for where BIPV products or rooftop PV systems are required to be Class A, B or C are deleted and replaced with references to R902.1.

3) The proposal moves Section R902 behind Section R903 Weather Protection. In addition to the fact Section R903.1 requires roof decks be provided with a roof covering, this will provide consistency with IBC Chapter 15 where Section 1505 Fire Classification follows Section 1503 Weather Protection and Section 1504 Performance Requirements.

4) The proposed revisions in section R902.1 old (R903.1 new) within this Section are in alignment with IBC Section 1505.1, and the actions taken on S1-21 from Group A.

5) The IRC is missing how fire-retardant-treated wood roof coverings are to be tested. Therefore, a sentence have been added to section R902.1 old (R903.1 new) states "fire-retardant-treated wood roof coverings shall be tested in accordance with ASTM D2898."

- 6) The exception in section R902.1 old (R903.1 new) are not correct as exceptions to R902.1 old (R903.1 new). These are exceptions to the different fire classifications of A, B, and C. Furthermore, these are not aligned with the conditions for these exceptions in IBC Section 1505.2.
- 7) Class A, B, and C have been added as R903.2, R903.3 and R903.4. This would align more appropriately with IBC Sections 1505.2, 1505.3, and 1505.4.
- 8) In the new section R903.2, exception #4, " ASTM D4869, Type IV" have been added based on the approved S2-21.
- 9) In section (R902.4 old) (R903.7 new), "installed in accordance with the manufacturer's installation instructions and their listing." have been added. Aligns with the wording in IBC Section 1505.910) In section (R902.4 old) (R903.7 new), "modules" have been deleted. This clarifies what has the fire classification. PV modules do not have any fire classification. Only the rooftop mounted PV panel systems do. If modules were left in, it would be very confusing and inaccurate.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal is intended to provide editorial clarification to the fire classification requirements for roof coverings. No technical changes are intended.

RB298-22

IRC: AJ102.4.3, AJ102.4.3.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

AJ102.4.3 Replacement windows for emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings, replacement windows shall be exempt from Sections R310.2 and R310.4.4 provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. Where the replacement window is not part of a change of occupancy.
3. Window opening control devices complying with F409—2017 shall be permitted for use on windows required to provide emergency escape and rescue openings.

~~Window opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as required emergency escape and rescue openings.~~

AJ102.4.3.1 Control devices. Window opening control devices or fall prevention devices complying with ASTM F2090 shall be permitted for use on windows required to provide emergency escape and rescue openings. ~~Emergency escape and rescue openings with window opening control devices or fall prevention devices complying with ASTM F2090;~~ After operation to release the control device allowing the window to fully open, the control device shall not reduce the net clear opening area of the window unit. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.

Reason: This is a coordination item. The proposed text is what is found in IEBC Section 505.3.1 and 702.5.1 for control devices on existing windows that are used for emergency escape and rescue. The same phraseology/intent is in appendix J, but is written differently. This could be read as asking for something different, which is not the case. This also better coordinates with R310.5.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This is a clarification/coordination of requirements. It has no technical changes.

RB314-22

IRC: (New), APPENDIX AY (New), AY101 (New), AY101.1 (New), AY101.1.1 (New), AY101.2 (New), AY102 (New), AY201.1 (New), SECTION 202 (New), AY103 (New), AY103.1 (New), AY104 (New), AY104.1 (New), AY104.1.2 (New), AY104.1.3 (New), AY104.1.4 (New), AY105 (New), A105.1 (New), AY105.2 (New), AY105.3 (New), AY105.4 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Add new text as follows:

Users note. *The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.*

About this appendix: *Appendix AY provides for the design and construction of accessory dwelling units (ADUs), an alternative to two- and multi-family residential construction that promotes increased housing supply and affordability.*

APPENDIX AY **ACCESSORY DWELLING UNITS (ADUs)**

AY101 **GENERAL**

AY101.1 Scope. ADUs proposed for existing residential construction shall be in accordance with this appendix, other applicable requirements in this code and shall not exceed the scoping limitations of Section R101.2.

AY101.1.1 Prohibited Conditions. An ADU shall not be permitted within:

1. Live/work units located in townhouses.
2. Owner-occupied lodging houses with five or fewer guestrooms.
3. A care-facility with five or fewer persons receiving medical care or custodial care within a dwelling unit.
4. A care-facility with five or fewer persons receiving care within a single-family dwelling.

AY101.2 Conditions. ADUs shall be permitted without requiring a *change of occupancy* to either a two-or multi-family dwelling where in compliance with all of the following:

1. Only one ADU shall be permitted for each primary dwelling unit.
2. The owner of a property containing an ADU shall reside in either the primary dwelling unit or the ADU, as of the date of permit approval.
3. An ADU shall have a separate house number from the primary dwelling unit.
4. ADUs shall be secondary in size and function to the primary dwelling unit and shall comply with all of the following limits.
 - 4.1. Not less than 190 square feet (17.65 m²) in area.
 - 4.2. Not more than 50 percent of the area of the primary dwelling unit.
 - 4.3. Not more than 1,200 square feet (111 m²) in area.
5. An ADU shall be provided with a separate entrance than that serving the primary dwelling unit either from the exterior of the building or from a common hallway located within the building.
6. An ADU shall have a maximum number of two bedrooms.
7. The location of a detached ADU shall comply with Section R302.
8. An ADU shall be provided with adequate provisions for electricity, water supply and sewage disposal.

AY102 **DEFINITIONS**

AY201.1 Definitions. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein.

Add new definition as follows:

ACCESSORY DWELLING UNIT (ADU). An additional, subordinate dwelling unit on the same lot, that is entirely within a dwelling unit, attached to a dwelling unit, or in a detached structure.

Add new text as follows:

AY103 **PERMITS**

AY103.1 Required. Any owner or owner's agent who intends to construct an ADU within an existing or proposed building or structure shall first make application to the building official and obtain the required permit.

AY104 **ADU PLANNING**

AY104.1 Design. Except as modified by this section, building planning shall be in accordance with Chapter 3 and building structure shall comply with Part III of this code.

AY104.1.2 Means of egress. The path of egress travel from an ADU to a public way or to a yard or court that opens to a public way shall be independent of, and not pass through the primary dwelling unit.

AY104.1.3 Fire separation. For ADUs adjoining the primary dwelling unit, the 1-hour fire-resistance rated wall and floor assembly provisions of Section R302.3 shall not be required provided that both of the following conditions have been met:

1. The interconnection of smoke alarms per Section R314.4 activates the smoke alarms in both the primary dwelling unit and the ADU.
2. The interconnection of carbon monoxide alarms per Section R315.5 activates the carbon monoxide alarms in both the primary dwelling unit and the ADU.

AY104.1.4 Smoke and carbon monoxide alarms. For ADUs adjoining the primary dwelling unit, the interconnectivity of smoke alarms and carbon monoxide alarms may be independent for the primary dwelling unit and the ADU provided that a 1-hour fire-resistance rating is provided for walls and floor assemblies as per R302.3.

AY105 **UTILITIES**

A105.1 Heating, ventilation and air-conditioning systems. A primary dwelling unit and an ADU shall be provided with:

1. A separate heating system.
2. Separate ducting for heating and cooling systems. Return air openings for heating, ventilation and air-conditioning shall not be taken from another dwelling unit.
3. Separate climate controls.

AY105.2 Electrical systems. A primary dwelling unit and an ADU shall be provided with:

1. Ready access to the service disconnecting means serving the dwelling unit.
2. Ready access for each occupant to all overcurrent devices protecting the conductors supplying the dwelling unit in which they reside.

AY105.3 Gas piping. A primary dwelling unit and an ADU shall be provided with:

1. Ready access to shutoff valves serving the dwelling unit in which they reside.
2. Ready access to appliance shutoff valves serving appliances in the dwelling unit in which they reside.

AY105.4 Water service. A primary dwelling unit and an ADU may share a common potable water system provided that there are separate, accessible main shutoff valves allowing the water to be turned off on one-side without affecting the other.

Reason: Accessory dwelling unit (ADU) is a term already in use across the United States – including Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, the District of Columbia, Florida, Hawaii, Idaho, Illinois, Indiana, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, North Carolina, Ohio, Oregon, Pennsylvania, Tennessee, Texas, Utah, Vermont, Virginia, Washington, and Wisconsin. However, the definition of an ADU and associated code requirements vary significantly not only state to state, but from jurisdiction to jurisdiction. Changes were made to the *International Zoning Code* (IZC) during the recent Group A Code Development Cycle to provide a definition and framework of requirements in an effort to create a uniform understanding of ADUs. It is also important to note the lack of building codes and standards has created circumstances where the requirements are being determined through local and state legislative processes, instead of ICC's code change process, which is a consensus process driven by the knowledge and experience of code officials. This code change proposal to create a new voluntary appendix to the IRC incorporates those portions adopted into the IZC that are not inextricably tied to zoning conditions, while adding fundamental building design criteria affecting life safety.

Section A__101

is nearly identical to the parameters established in the IZC. The distinctions being:

- 1) Clarifying language that creating / proposing an ADU does not automatically trigger a *change of occupancy* from a one-family to a two-family, or from a two-family to a multi-family, provided all conditions are met.
- 2) The IZC included one requirement affecting off-street parking which is beyond the scope of the IRC.
- 3) New language is provided that the additional design parameters for an ADU not addressed in this Appendix default back to the IRC.
- 4) New language makes it clear that ADUs within existing residential dwellings shall not be in addition to live/work units, lodging houses, or care facilities with five or fewer people.

As explained in the reason statement provided previously to the IZC:

Section A__101.1 Conditions

propose eight (8) requirements that ensure the ADU does not become a “duplex” or second single-family home on the same lot. Should these conditions not be met, the proposed ADU must be considered as a separate *dwelling unit* with all applicable regulations of the IBC, IEBC, or IRC in effect.

- Item 1 re-affirms the subordinate nature of the ADU to the primary dwelling unit;
- Item 2 establishes an Owner-occupancy requirement;
- Item 3 requires a separate address for the ADU from the primary unit.
- Item 4 sets size parameters for the ADU.
 - o The minimum square footage of 190 SF aligns with the IBC minimum for an efficiency unit.
 - o The maximum size is based on a comparison of requirements in effect in CO, OR, MA, CA, and VA which ranged from 750 SF to 1,400 SF; most between 1,000 SF and 1,200 SF.
 - o A similar comparison between percentages of the primary unit showed 30% to 50% with more jurisdictions favoring the higher value.
- Item 5 requires a separate entrance to prevent a house that has a second kitchen (such as a recreation room in a basement with a cooking area), but are not an ADU from being mandated to meet the ADU requirements.
- Item 6 limits the unit to two bedrooms to minimize parking demands normally associated with zoning ordinances while still allowing the ADU to address housing market demands and cost concerns.
- Item 7 is a pointer to the multiple buildings on a single lot requirements of Section R302.
- Item 8 recognizes the need for an ADU to have adequate utilities.

Section A__102 creates two definitions matching those added to the IZC. The first recognizes the common parlance of an Accessory Dwelling Unit (ADU) and points to the second definition, which describes the use more accurately as a subset of a *dwelling unit* defined in Chapter 2.

The content of the definition for an ADU was developed based on similarities found in existing Zoning ordinances in effect around the United States, and distinguishing the difference between an ADU and a Two-Family Dwelling; i.e., the subordinate nature of the size and function to the primary or second dwelling unit. Though subordinate is not a defined term in Chapter 2, there is precedent in the I-Codes for using the term (for example see the IZC definitions for *Accessory Building* – “an incidental subordinate building...” and *Home Occupation* – “the partial use of a home for commercial or nonresidential uses by a resident thereof, which is subordinate and incidental...”

The definition is intended for integration throughout the I-Codes, as further code development cycles address specific code regulations for the IBC, and IEBC, depending on the type of ADU proposed. This definition recognizes that an ADU features the same components of a dwelling unit in terms of living, sleeping, eating, cooking and sanitation which presently can only be defined in the I-Codes as a *dwelling unit*. The reality is that the application of the ADU concept in different jurisdictions is inconsistent, and at times may allow deviation from the full requirements the code prescribes for a two-family dwelling unit arrangement. It is necessary to recognize the unique circumstances wherein an ADU must comply with those two-family dwelling unit requirements, and when alternative arrangements are acceptable that do not compromise the health, safety, and

welfare of the Public. The definition also recognizes that the ADU can either be within the primary dwelling unit (such as in the basement of a single-family home) or a detached accessory structure (similar to a detached garage).

The definition avoids non-enforceable provisions such as if the ADU is rented, the relationship between the person(s) in the ADU and the primary dwelling, and characteristics that would preclude placement within the IBC, IEBC, IRC, and IZC.

Section A__103

establishes consistent permitting criteria for an ADU as is expected for a *dwelling unit*.

Section A__104 establishes that the design of an ADU is similar in most respects to a *dwelling unit* but with a few allowances to avoid triggering a change of occupancy. The most important distinction pertains to an ADU that adjoins the primary dwelling unit whereby the design professional may consider an either / or proposition regarding the installation of fire-resistance rated separations tantamount to a two-family dwelling or making the smoke alarm and carbon monoxide alarms interconnected between both the primary and accessory dwelling units.

Section A__105 establishes consistency for both the primary and accessory dwelling units to access to / control of the utility connections affecting their respective spaces.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal does not increase nor decrease the cost of construction. The proposal creates a voluntary appendix allowing someone to build an accessory dwelling unit within a building legally constructed in accordance with the IRC. No one is under any obligation to build an ADU, nor are they required to plan for the construction of a future ADU.

For someone choosing not to construct an ADU these code provisions will not be applicable; there are no cost implications.

For someone choosing to construct an ADU these code provisions are applicable; the cost of construction will increase proportionally to the size of the project. According to an article titled *Calculating the Costs of Building an ADU* published on the BuildinganADU.com blog, the average cost for an ADU from 2016-2019 based on their research is as follows:

- Detached New Construction: \$305/SF
- Basement ADU: \$265/ SF
- Attached ADU: \$300/ SF
- Garage Conversion: \$297/ SF
- Detached New Construction Above a Garage: \$212/ SF

S70-21

IBC: TABLE 1604.5

Proponents: Homer Maiel, PE,CBO, representing ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay) (hmaiel@gmail.com)

2021 International Building Code

Revise as follows:

TABLE 1604.5 RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES

Portions of table not shown remain unchanged.

RISK CATEGORY	NATURE OF OCCUPANCY
I	<p>Buildings and other structures that represent a low hazard to human life in the event of failure, including but not limited to: Agricultural facilities.</p> <p>Certain temporary facilities.</p> <p>Minor storage facilities.</p>
II	<p>Buildings and other structures except those listed in Risk Categories I, III and IV.</p>
III	<p>Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to: Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300.</p> <p>Buildings and other structures containing one or more public assembly spaces, each having an occupant load greater than 300 and a cumulative occupant load of the public assembly spaces of greater than 2,500.</p> <p>Buildings and other structures containing Group E or Group I-4 occupancies or combination thereof, with an occupant load greater than 250.</p> <p>Buildings and other structures containing educational occupancies for students above the 12th grade with an occupant load greater than 500.</p> <p>Group I-2, Condition 1 occupancies with 50 or more care recipients.</p> <p>Group I-2, Condition 2 occupancies not having emergency surgery or emergency treatment facilities.</p> <p>Group I-3 occupancies.</p> <p>Any other occupancy with an occupant load greater than 5,000.^a</p> <p>Power-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV.</p> <p>Buildings and other structures not included in Risk Category IV containing quantities of toxic or explosive materials that: Exceed maximum allowable quantities per control area as given in Table 307.1(1) or 307.1(2) or per outdoor control area in accordance with the <i>International Fire Code</i>; and Are sufficient to pose a threat to the public if released.^b</p>

RISK CATEGORY	NATURE OF OCCUPANCY
IV	<p>Buildings and other structures designated as essential facilities, including but not limited to: Group I-2, Condition 2 occupancies having emergency surgery or emergency treatment facilities.</p> <p>Ambulatory care facilities having emergency surgery or emergency treatment facilities.</p> <p>Fire, rescue, ambulance and police stations and emergency vehicle garages</p> <p>Designated earthquake, hurricane or other emergency shelters.</p> <p>Designated emergency preparedness, communications and operations centers and other facilities required for emergency response.</p> <p>Power-generating stations and other public utility facilities required as emergency backup facilities for <i>Risk Category IV</i> structures.</p> <p>Buildings and other structures containing quantities of highly toxic materials that:</p> <p>Exceed maximum allowable quantities per control area as given in Table 307.1(2) or per outdoor control area in accordance with the <i>International Fire Code</i>; and</p> <p>Are sufficient to pose a threat to the public if released.^b</p> <p>Aviation control towers, air traffic control centers and emergency aircraft hangars.</p> <p>Buildings and other structures having critical national defense functions.</p> <p>Water storage facilities and pump structures required to maintain water pressure for fire suppression.</p> <p><u>Storm shelters in accordance with Section 423.1</u></p>

- a. For purposes of occupant load calculation, occupancies required by Table 1004.5 to use gross floor area calculations shall be permitted to use net floor areas to determine the total occupant load.
- b. Where approved by the building official, the classification of buildings and other structures as Risk Category III or IV based on their quantities of toxic, highly toxic or explosive materials is permitted to be reduced to Risk Category II, provided that it can be demonstrated by a hazard assessment in accordance with Section 1.5.3 of ASCE 7 that a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.

Reason: This is simply cross referring a table to a section and a section to a table. In Section 423.1 there is mention of storm shelters to comply with Table 1604.5 as a Risk Cat. IV. However, table does not mention Section 423.1.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is simply an editorial clarification; make a section and a table to reference each other.

S99-22

IBC: SECTION 106, [A] 106.1, [A] 106.2, [A] 106.3, 1607.8.5

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Delete without substitution:

SECTION 106 FLOOR AND ROOF DESIGN LOADS

~~[A] 106.1 Live loads posted.~~ In commercial or industrial buildings, for each floor or portion thereof designed for *live loads* exceeding 50 psf (2.40 kN/m²), such design *live loads* shall be conspicuously posted by the owner or the owner's authorized agent in that part of each story in which they apply, using durable signs. It shall be unlawful to remove or deface such notices.

~~[A] 106.2 Issuance of certificate of occupancy.~~ A certificate of occupancy required by Section 111 shall not be issued until the floor load signs, required by Section 106.1, have been installed.

~~[A] 106.3 Restrictions on loading.~~ It shall be unlawful to place, or cause or permit to be placed, on any floor or roof of a building, structure or portion thereof, a *load* greater than is permitted by this code.

Revise as follows:

1607.8.5 Posting. The maximum weight of vehicles allowed into or on a garage or other structure shall be posted on a durable sign in a readily visible location at the vehicle entrance of the building or other approved location by the owner or the owner's authorized agent in accordance with Section 106.1.

Reason: This proposal addresses the concerns expressed during testimony on a similar change last cycle. S52-19 attempted to move this signage requirement back to Chapter 16. This section was moved to the administrative provisions from structural by S48-07/08. The structural committee felt that this sign did not belong with the loading provisions in Chapter 16. There was testimony stating that the signage for live loads exceeding 50 pounds was an erroneous requirement. Signage requirements do not belong in the administrative provisions and none are found in any of the Administrative requirements in any of the other codes. Therefore, this proposal to delete the sign that was considered ineffective out of Chapter 1, and add a clarification of the requirements for the vehicle loading in Section 107.7.5 where it currently exists. This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will decrease the cost of construction. Eliminates signage in some areas.

S100-22

IBC: 1607.9.1

Proponents: Jennifer Goupil, representing Structural Engineering Institute of ASCE (jgoupil@asce.org)

2021 International Building Code

Revise as follows:

1607.9.1 Handrails and guards. *Handrails and guards* shall be designed to resist a linear *load* of 50 pounds per linear foot (plf) (0.73 kN/m) in accordance with Section 4.5.1.1 of ASCE 7. Glass *handrail* assemblies and *guards* shall comply with Section 2407.

Exceptions:

1. For one- and two-family dwellings, only the single concentrated *load* required by Section 1607.9.1.1 shall be applied.
2. In Group I-3, F, H and S occupancies, for areas that are not accessible to the general public and that have an *occupant load* less than 50, the minimum *load* shall be 20 pounds per foot (0.29 kN/m).
3. For roofs not intended for occupancy, only the single concentrated *load* required by Section 1607.9.1.1 shall be applied.

Reason: This proposal is a coordination proposal to bring the 2024 IBC up to date with the provisions of the 2022 edition of ASCE/SEI 7 Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI 7-22). ASCE 7 will be updated to the 2022 edition from the 2016 edition as an Administrative update in the 2024 I-Codes.

This proposal adds an exception to the requirement to design handrails and guards for the 50 plf load to coordinate with ASCE 7. The proposed exception was added to ASCE 7 for the 2022 edition.

Unoccupied rooftops are not factory, industrial, or storage occupancies and therefore do not currently qualify for what is in essence a reduced load; however, unoccupied roofs have, at most, a few maintenance workers on them at intermittent times and arguably pose less of a hazard than rails at one- and two-family dwellings and the other occupancies to which this exception currently applies. Unoccupied rooftop areas meet the two other requirements -- namely that they are areas not accessible to the public and serve an occupant load not greater than 50.

Note, the term "roofs not intended for occupancy" is proposed as it coordinates with the terminology used in the live load table.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal has the possibility of reducing design and construction costs where the new exception applies.

S119-22 Part I

IBC: 1609.2.2, 1609.2.3

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IBC STRUCTURAL CODE COMMITTEE. PART II WILL BE HEARD BY THE IRC-B CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Delete without substitution:

~~**1609.2.2 Application of ASTM E1996.** The text of Section 6.2.2 of ASTM E1996 shall be substituted as follows:~~

~~6.2.2 Unless otherwise specified, select the wind zone based on the basic design *wind speed*, *V*, as follows:~~

~~6.2.2.1 *Wind Zone 1* — 130 mph \leq basic design *wind speed*, *V* < 140 mph.~~

~~6.2.2.2 *Wind Zone 2* — 140 mph \leq basic design *wind speed*, *V* < 150 mph at greater than one mile (1.6 km) from the coastline. The coastline shall be measured from the mean high water mark.~~

~~6.2.2.3 *Wind Zone 3* — 150 mph (67 m/s) \leq basic design *wind speed*, *V* \leq 160 mph (72 m/s), or 140 mph (63 m/s) \leq basic design *wind speed*, *V* \leq 160 mph (72 m/s) and within one mile (1.6 km) of the coastline. The coastline shall be measured from the mean high water mark.~~

~~6.2.2.4 *Wind Zone 4* — basic design *wind speed*, *V* > 160 mph (72 m/s).~~

Revise as follows:

~~**1609.2.3- 1609.2.2 Garage doors.** Garage door glazed opening protection for windborne debris shall meet the requirements of an *approved* impact-resisting standard or ANSI/DASMA 115.~~

Reason: This proposal removes the technical criteria that is redundant with the current reference standards ASTM E1996-20 and ASCE7- 22.

ASTM E1996 has changed to ultimate design from strength design and reduced the wind zones from 4 to 3. The 'correction' as specified in IBC Section 1609.2.2 and IRC Section R301.2.1.2.1 is no longer needed with the current ASTM E1996-20 and ASCE 7-22.

ASCE 7-10 changed the basis of its wind speed maps from allowable stress-level wind speeds to strength design-level wind speeds. However, due to the timing of the ICC code development cycle leading to the 2012 IBC and IRC and of the ASTM cycle for updating E1996, there was not enough time to correlate and update the wind speeds associated with the E1996 wind zones. Section 1609.2.2 was introduced as a temporary measure to correlate the E1996 wind zones with ASCE 7-10.

In addition, Wind Zone 4 was modified to trigger at a higher wind speed as was specified in E1996 at the time. Wind Zone 4 was originally introduced to bring Miami-Dade County on board with accepting ASTM E1996 as equivalent to the TAS 102. The IBC and IRC raised the Wind Zone 4 trigger as the ASCE 7-10 wind maps would have otherwise resulted in Wind Zone 4 extending beyond Miami-Dade County.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

Removing the IBC and IRC modification will not change any design or testing requirements as the wind zone definitions in E1996 largely match those in the modification. It may reduce confusion in southern Florida by removing reference to Wind Zone 4, which no longer exists in E1996.

S119-22 Part II

IRC: R301.2.1.2.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Delete without substitution:

R301.2.1.2.1 Application of ASTM E1996. The text of Section 2.2 of ASTM E1996 shall be substituted as follows:
2.2 ASCE Standard:

~~ASCE 7-10 American Society of Civil Engineers *Minimum Design Loads for Buildings and Other Structures*~~

~~The text of Section 6.2.2 of ASTM E1996 shall be substituted as follows:~~

~~6.2.2 Unless otherwise specified, select the wind zone based on the ultimate design wind speed, V_{ult} , as follows:~~

~~6.2.2.1 Wind Zone 1—130 mph \leq ultimate design wind speed, $V_{ult} < 140$ mph.~~

~~6.2.2.2 Wind Zone 2—140 mph \leq ultimate design wind speed, $V_{ult} < 150$ mph at greater than 1 mile (1.6 km) from the coastline. The coastline shall be measured from the mean high water mark.~~

~~6.2.2.3 Wind Zone 3—150 mph (67 m/s) \leq ultimate design wind speed, $V_{ult} \leq 170$ mph (76 m/s), or 140 mph (54 m/s) \leq ultimate design wind speed, $V_{ult} \leq 170$ mph (76 m/s) and within 1 mile (1.6 km) of the coastline. The coastline shall be measured from the mean high water mark.~~

~~6.2.2.4 Wind Zone 4—ultimate design wind speed, $V_{ult} > 170$ mph (76 m/s).~~

Reason: This proposal removes the technical criteria that is redundant with the current reference standards ASTM E1996-20 and ASCE7- 22. ASTM E1996 has changed to ultimate design from strength design and reduced the wind zones from 4 to 3. The 'correction' as specified in IBC Section 1609.2.2 and IRC Section R301.2.1.2.1 is no longer needed with the current ASTM E1996-20 and ASCE 7-22.

ASCE 7-10 changed the basis of its wind speed maps from allowable stress-level wind speeds to strength design-level wind speeds. However, due to the timing of the ICC code development cycle leading to the 2012 IBC and IRC and of the ASTM cycle for updating E1996, there was not enough time to correlate and update the wind speeds associated with the E1996 wind zones. Section 1609.2.2 was introduced as a temporary measure to correlate the E1996 wind zones with ASCE 7-10.

In addition, Wind Zone 4 was modified to trigger at a higher wind speed as was specified in E1996 at the time. Wind Zone 4 was originally introduced to bring Miami-Dade County on board with accepting ASTM E1996 as equivalent to the TAS 102. The IBC and IRC raised the Wind Zone 4 trigger as the ASCE 7-10 wind maps would have otherwise resulted in Wind Zone 4 extending beyond Miami-Dade County.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

Removing the IBC and IRC modification will not change any design or testing requirements as the wind zone definitions in E1996 largely match those in the modification. It may reduce confusion in southern Florida by removing reference to Wind Zone 4, which no longer exists in E1996.

S134-22

IBC: SECTION 1616 (New), 1616.1 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Add new text as follows:

SECTION 1616 FIRE LOADS

1616.1 General. Where the structural fire protection of structural elements is designed considering system-level behavior or realistic fire exposures, the design shall be in accordance with ASCE 7. Where the structural fire protection is designed per this section, all other provisions of Chapter 7 shall apply.

Reason: American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI) has developed industry consensus on performance-based structural fire design within the ASCE/SEI 7 standard [1] as demonstrated in their freely-available ASCE/SEI Design Guide (Performance-Based Structural Fire Design: Exemplar Designs of Four Regionally Diverse Buildings using ASCE 7-16, Appendix E) [2]. For the first time in U.S. practice, this standard establishes the process that enables designers to upgrade structures (e.g., structural connections) to be intrinsically safer to fire effects (e.g., restrained thermal expansion/contraction and large deflections) in order to better protect building occupants and firefighters from structural collapse due to uncontrolled fire events. Also, ASCE/SEI 7 Appendix E works within the greater ASCE/SEI 7 context which is important to ensure that fire effects are analyzed in a similar fashion as other structural loads (e.g., wind and seismic). Notably, ASCE/SEI 7 Appendix E Section E.3 requires for a structural fire design to comply with the requirements of ASCE/SEI 7 Section 1.3.1.3, which details peer review requirements among other structural engineering aspects. Lastly, the standard is structured to formally integrate building officials into the design process in a similar manner as performance-based structural engineering is conducted for other design hazards (e.g., blast, seismic, and wind). In summary, this code change proposal adds the appropriate reference to the ASCE/SEI 7 standard for performance-based structural fire design. Importantly, ASCE/SEI 7 Appendix E provides material-neutral and critical overarching requirements. This proposal is submitted by the ICC Building Code Action Committee (BCAC).

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<https://www.cdaccess.com/proposal/8203/24809/files/download/2858/>

<https://www.cdaccess.com/proposal/8203/24809/files/download/2840/>

<https://www.cdaccess.com/proposal/8203/24809/files/download/2839/>

Bibliography: [1] ASCE/SEI 7: Minimum Design Loads and Associated Criteria for Buildings and Other Structures, Appendix E: Performance-Based Design Procedures for Fire Effects on Structures, American Society of Civil Engineers: Structural Engineering Institute, 2016

[2] ASCE/SEI Performance-Based Structural Fire Design: Exemplar Designs of Four Regionally Diverse Buildings using ASCE 7-16, Appendix E, American Society of Civil Engineers: Structural Engineering Institute and Charles Pankow Foundation, 2020 <

<https://ascelibrary.org/doi/book/10.1061/9780784482698> >.

The following attachment (free/open source) per Reference [1] and [2]: <https://eshare.element.com/url/3udcsdjgruhpdngk>

Also, the following link where the Design Guide can be freely viewed or downloaded (simply click "PDF"): [Performance-Based Structural Fire Design | Books \(ascelibrary.org\)](#)

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The proposed code change would have no direct impact on construction costs since alternative methods are already being conducted in practice and the performance-based structural fire design procedures in ASCE/SEI 7 represent current industry best practices.

S164-22

IBC: 1809.7, TABLE 1809.7, 1809.8, 1809.9

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

1809.7 Prescriptive footings for light-frame construction. Where a specific design is not provided, concrete or masonry-unit footings supporting walls of *light-frame construction* shall be permitted to be designed in accordance with Table 1809.7. The *light-frame construction* supported by these footings shall comply with all of the following:

1. The light frame construction shall be designed in accordance with Section 2211.1.2, 2308, or 2309.
2. The light frame construction shall not exceed the limitations specified in Section 2308.2.
3. Floor and roof framing tributary width shall not exceed 16 feet (4877 mm), with an additional maximum roof overhang of 2 feet (610 mm).
4. The soil shall not be expansive and shall have a minimum allowable vertical bearing pressure of 1,500 psf (71.8 kN/m²).

TABLE 1809.7 PRESCRIPTIVE FOOTINGS SUPPORTING WALLS OF LIGHT-FRAME CONSTRUCTION^{a, b, c, d, e, f}

NUMBER OF FLOORS <u>AND ROOFS</u> SUPPORTED BY THE FOOTING ^f	WIDTH OF FOOTING (inches)	THICKNESS OF FOOTING (inches)
1	12	6
2	15	6
3	18 <u>23</u>	8 ^g

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- a. Depth of footings shall be in accordance with Section 1809.4.
- b. The ground under the floor shall be permitted to be excavated to the elevation of the top of the footing.
- c. Interior stud-bearing walls shall be permitted to be supported by isolated footings. The footing width and length shall be twice the width shown in this table, and footings shall be spaced not more than 6 feet on center.
- d. See Section 1905 for additional requirements for concrete footings of structures assigned to Seismic Design Category C, D, E or F.
- e. For thickness of foundation walls, see Section 1807.1.6.
- f. ~~Footings shall be permitted to support a roof in addition to the stipulated number of floors. Footings supporting roof only shall be as required for supporting one floor. Footing projections shall not exceed the thickness of the footing.~~
- g. ~~Plain concrete footings for Group R-3 occupancies shall be permitted to be 6 inches thick.~~

1809.8 Plain concrete footings. The edge thickness of plain concrete footings supporting walls ~~of other than light-frame construction~~ shall be not less than 8 inches (203 mm) where placed on soil or rock.

Exception-Exceptions:

1. For plain concrete footings supporting Group R-3 occupancies, the edge thickness is permitted to be 6 inches (152 mm), provided that the footing does not extend beyond a distance greater than the thickness of the footing on either side of the supported wall.
2. The edge thickness of plain concrete footings shall be permitted to be designed in accordance with Section 1809.7.

1809.9 Masonry-unit footings. The design, materials and construction of masonry-unit footings shall comply with Sections 1809.9.1 and 1809.9.2, and the provisions of Chapter 21.

Exception: Where a specific design is not provided, masonry-unit footings shall be permitted to be designed in accordance with Section 1809.7 supporting walls of light-frame construction shall be permitted to be designed in accordance with Table 1809.7.

Reason: *Light-frame construction* is only defined by the repetitive nature of its structural elements and has no tie to loading. This footing table is intended to only be applied to lightly loaded prescriptive construction, but the wording of the section currently allows any type of *light-frame construction*.

There are many buildings with very heavy foundation loads that meet the definition of *light-frame construction* and are not appropriate to place on the prescriptive foundations in Table 1809.7. This is also true with highly loaded shear walls. This proposal clarifies that the intent of these prescriptive provisions is tied with conventional-similar light-frame construction of Section 2308.

The limitations placed on these footings are taken from the limitations of *conventional light-frame construction* but also includes the tributary widths that are used in the IRC prescriptive footing tables. These limitations are necessary as AWC’s WFCM and AISI’s S230 allow higher snow load, wind load, and seismic design categories than are present in *conventional light-frame construction*. Additionally, no identified tributary width currently exists for the use of this table.

This table’s ability to be used with a roof in addition to the number of floors being supported is removed as when calculating the foundations - it was found not to conform to code limits for soil bearing. The similar table that existed in the 2012 IRC and its previous versions limited the number of stories of the building – not the number of floors supported. This change reduces the table from being able to support a 4-story building to a 3-story building, which aligns with the 2012 IRC foundation table as well as the conventional light-frame construction limitations. The only additional change needed to make the table work was for the width that supports a three-story building and the change aligns with the 2012 IRC footing table.

Section 1808.6 would still be applicable to expansive soils, so this table should not apply to those soils. However, other questionable soil will require a geotechnical investigation where the allowable vertical foundation bearing pressure could be determined to be at least 1,500psf to use this table.

The changes to 1809.8 and 1809.9 are necessary to invoke the same limitations as the base section where masonry and plain concrete footings are used.

The restriction of the footing projection thickness is taken from IRC limitations of the same thing.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

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Cost Impact: The code change proposal will increase the cost of construction

This proposal clarifies that the intent of the table is only to be applied to **lightly loaded** prescriptive construction, not for any type of *light-frame construction as stated in the 2021 IBC*. *Light-frame construction* is defined by the repetitive nature of its structural elements and has no tie to loading.

Clarifying the table limitations will ensure the table is not used for larger, more heavily-loaded light-frame structures that would overload the tabulated footing sizes, or in high-wind and high-seismic conditions where footings supporting the lateral force-resisting system need to be designed for such forces.

This code change proposal will increase the cost of construction by requiring non-prescriptive design of footings supporting structures that do not meet the clarified limitations.

S173-22

IBC: 1901.2, SECTION 1907, 1907.1 (New), 1907.2 (New), 1907.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Stephen Szoke, representing American Concrete Institute (steve.szoke@concrete.org)

2021 International Building Code

Revise as follows:

1901.2 Plain and reinforced concrete. Structural concrete shall be designed and constructed in accordance with the requirements of this chapter and ACI 318 as amended in Section 1905 of this code. ~~Except for the provisions of Sections 1904 and 1907, the design and construction of slabs on grade shall not be governed by this chapter unless they transmit vertical loads or lateral forces from other parts of the structure to the soil.~~

SECTION 1907 MINIMUM SLAB PROVISIONS SLABS-ON-GROUND

Add new text as follows:

1907.1 General. Non-structural slabs-on-ground shall comply with Section 1904 and this Section. Structural slabs-on-ground shall comply with all applicable provisions of this Chapter. Slabs-on-ground shall be considered structural where designed to one of the following:

1. Transmit loads or resist lateral forces from other parts of the structure to the soil.
2. Transmit loads or resist lateral forces from other parts of the structure to foundations
3. Serve as tributary area for resisting uplift or overturning forces.

1907.2 Thickness. The thickness of concrete floor slabs supported directly on the ground shall be not less than 3½ inches (89 mm).

Revise as follows:

~~1907.1~~ **1907.3 General- Vapor retarder.** ~~The thickness of concrete floor slabs supported directly on the ground shall be not less than 3½ inches (89 mm).~~ A 6-mil (0.006 inch; 0.15 mm) polyethylene vapor retarder with joints lapped not less than 6 inches (152 mm) shall be placed between the base course or subgrade and the concrete floor slab, or other *approved* equivalent methods or materials shall be used to retard vapor transmission through the floor slab.

Exception: A vapor retarder is not required:

- For detached structures accessory to occupancies in Group R-3, such as garages, utility buildings or other unheated facilities.
- For unheated storage rooms having an area of less than 70 square feet (6.5 m²) and carports attached to occupancies in Group R-3.
- For buildings of other occupancies where migration of moisture through the slab from below will not be detrimental to the intended occupancy of the building.
- For driveways, walks, patios and other flatwork that will not be enclosed at a later date.
- Where *approved* based on local site conditions.

Reason: This proposal:

1. Renames Section 1907 to "Slabs-on-Ground" as this section is not applicable to interim floor slabs or other slabs not on ground.
2. Moves all slab-on-ground requirements into one section by eliminating text in section 1901.2
3. Clarifies scenarios where slabs-on-ground are structural, adding language that addresses slabs on ground used as part of a diaphragm systems, transferring loads to micro-piles, etc. and as dead weight to resist overturning or uplift forces.
4. The proposal divided the existing text of 1907.1 into two sections. 1907.2 for the thickness of concrete floor slabs and 1907.3 for Vapor retarder.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building->

code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change is a clarification of the requirements

S175-22

IBC: 1901.2, 1902.1, 1902.1.1, 1902.1.2, 1901.3, 1903.2, 1903.3, 1903.4, SECTION 1905, 1905.1, 1905.1.1, SECTION 202 (New), SECTION 202, 1905.1.2, 1905.1.3, 1905.1.4, 1905.3.1 (New), 1905.1.5, 1905.1.6, 1905.5.1 (New), 1905.1.7, 1905.6.1 (New), 1905.6.2 (New), 1905.1.8, 1905.7.1 (New), 1905.7.2 (New)

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org); Kelly Cobeen, representing Federal Emergency Management Agency/Applied Technology Council - Seismic Code Support Committee (kcobeen@wje.com); Michael Mahoney, representing FEMA (mike.mahoney@fema.dhs.gov); Kerry Sutton, representing American Concrete Institute (kerry.sutton@concrete.org)

2021 International Building Code

Revise as follows:

1901.2 Plain and reinforced concrete. Structural concrete shall be designed and constructed in accordance with the requirements of this chapter and ACI 318 as ~~amended~~ supplemented in Section 1905 of this code. Except for the provisions of Sections 1904 and 1907, the design and construction of slabs on grade shall not be governed by this chapter unless they transmit vertical *loads* or lateral forces from other parts of the structure to the soil.

1902.1 General. Coordination of terminology used in ACI 318 and ASCE 7 shall be in accordance with Sections 1902.1.1 ~~and 1902.1.2~~.

1902.1.1 Design displacement . Design displacement shall be the Design Earthquake Displacement, δ_{DE} , defined in ASCE 7 Section 12.8.6.3. For diaphragms that can be idealized as rigid in accordance with ASCE 7 Section 12.3.1.2, δ_{di} , displacement due to diaphragm deformation corresponding to the design earthquake, is permitted to be taken as zero. Design displacement at each level shall be the total lateral deflection at the level calculated for the design earthquake using the procedures defined in Section 12.8.6 of ASCE 7.

Delete without substitution:

~~**1902.1.2 Special structural wall.** Special structural walls made of cast-in-place or precast concrete shall comply with the requirements of Sections 18.2.4 through 18.2.8, 18.10 and 18.11 of ACI 318, as applicable, in addition to the requirements for *ordinary reinforced concrete structural walls* or *ordinary precast structural walls*, as applicable. Where ASCE 7 refers to a "special reinforced concrete shear wall," it shall be deemed to mean a "special structural wall."~~

Revise as follows:

1901.3 Anchoring to concrete. Anchoring to concrete shall be in accordance with ACI 318 as ~~amended~~ supplemented in Section 1905, and applies to cast-in (headed bolts, headed studs and hooked J- or L-bolts), post-installed expansion (torque-controlled and displacement-controlled), undercut, screw, and adhesive anchors.

Delete without substitution:

~~**1903.2 Special inspections.** *Where required, special inspections and tests shall be in accordance with Chapter 17.*~~

Revise as follows:

~~**1903.2**~~ **1903.3 Glass fiber-reinforced concrete.** Glass fiber-reinforced concrete (GFRG) and the materials used in such concrete shall be in accordance with the PCI MNL 128 standard.

~~**1903.3**~~ ~~**1903.4**~~ **Flat wall insulating concrete form (ICF) systems.** Insulating concrete form material used for forming flat concrete walls shall conform to ASTM E2634.

SECTION 1905

SEISMIC REQUIREMENTS MODIFICATIONS TO ACI 318

1905.1 General. In addition to the provisions of ACI 318, structural concrete shall comply with the requirements of Section 1905.

~~The text of ACI 318 shall be modified as indicated in Sections 1905.1.1 through 1905.1.8.~~

~~**1905.2**~~ ~~**1905.1.1**~~ **ACI 318, Section 23.** Modify existing definitions and add the following definitions to ACI 318, Section 2.3.

Add new definition as follows:

CAST-IN-PLACE CONCRETE EQUIVALENT DIAPHRAGM. A cast-in-place noncomposite topping slab diaphragm, as defined in Section 18.12.5, or a diaphragm constructed with precast concrete components that uses closure strips between precast components with detailing that meets the requirements of ACI 318 for the *Seismic Design Category* of the structure.

Revise as follows:

DETAILED PLAIN CONCRETE STRUCTURAL WALL. A wall complying with the requirements of Chapter 14, and Section 1905.5 of the

International Building Code including 14.6.2.

ORDINARY STRUCTURAL PLAIN CONCRETE STRUCTURAL WALL. A wall complying with the requirements of Chapter 14, *excluding* 14.6.2.

Add new definition as follows:

PRECAST CONCRETE DIAPHRAGM. A diaphragm constructed with precast concrete components, with or without a cast-in-place topping, that includes the use of discrete connectors or joint reinforcement to transmit diaphragm forces.

Delete without substitution:

1905.1.2 ACI 318, Section 1821. Modify ACI 318 Sections 18.2.1.2 and 18.2.1.6 to read as follows:

- ~~18.2.1.2—Structures assigned to Seismic Design Category A shall satisfy requirements of Chapters 1 through 17 and 19 through 26; Chapter 18 does not apply. Structures assigned to Seismic Design Category B, C, D, E or F shall satisfy 18.2.1.3 through 18.2.1.7, as applicable. Except for structural elements of plain concrete complying with Section 1905.1.7 of the International Building Code, structural elements of plain concrete are prohibited in structures assigned to Seismic Design Category C, D, E or F.~~
- ~~18.2.1.6—Structural systems designated as part of the seismic force-resisting system shall be restricted to those permitted by ASCE 7. Except for Seismic Design Category A, for which Chapter 18 does not apply, the following provisions shall be satisfied for each structural system designated as part of the seismic force-resisting system, regardless of the seismic design category:~~
 - (a) Ordinary moment frames shall satisfy 18.3.
 - (b) ~~Ordinary reinforced concrete structural walls and ordinary precast structural walls~~ need not satisfy any provisions in Chapter 18.
 - (c) Intermediate moment frames shall satisfy 18.4.
 - (d) Intermediate precast ~~structural walls~~ shall satisfy 18.5.
 - (e) Special moment frames shall satisfy 18.6 through 18.9.
 - (f) Special structural walls shall satisfy 18.10.
 - (g) Special structural walls constructed using precast concrete shall satisfy 18.11.

Special moment frames and special structural walls shall also satisfy 18.2.4 through 18.2.8.

Revise as follows:

1905.3 1905.1.3 Intermediate precast structural walls ACI 318, Section 185. Intermediate precast structural walls shall comply with Section 18.5 of ACI 318 and this section.

Modify ACI 318, Section 18.5 by adding new Section 18.5.2.2 and renumbering existing Sections 18.5.2.2 and 18.5.2.3 to become 18.5.2.3 and 18.5.2.4, respectively.

- ~~18.5.2.2—Connections that are designed to yield shall be capable of maintaining 80 percent of their design strength at the deformation induced by the design displacement or shall use Type 2 mechanical splices.~~
- 18.5.2.3—Elements of the connection that are not designed to yield shall develop at least 1.5 S_y .
- 18.5.2.4—In structures assigned to SDC D, E or F, wall piers shall be designed in accordance with 18.10.8 or 18.14 in ACI 318.

Delete without substitution:

1905.1.4 ACI 318, Section 1811. Modify ACI 318, Section 18.11.2.1 to read as follows:

- ~~18.11.2.1—Special structural walls constructed using precast concrete shall satisfy all the requirements of 18.10 for cast-in-place special structural walls in addition to 18.5.2.~~

Add new text as follows:

1905.3.1 Connections designed to yield. Connections that are designed to yield shall be capable of maintaining 80 percent of their design strength at the deformation induced by the design displacement or shall use Type 2 mechanical splices.

Revise as follows:

1905.4 1905.1.5 Foundations designed to resist earthquake forces ACI 318, Section 181311. Foundations resisting earthquake-induced forces or transferring earthquake-induced forces between a structure and ground shall comply with the requirements of 18.13 and other applicable provisions of ACI 318 unless modified by Chapter 18 of the International Building Code.

—Modify ACI 318, Section 18.13.1.1 to read as follows:

- ~~18.13.1.1—Foundations resisting earthquake-induced forces or transferring earthquake-induced forces between a structure and ground shall comply with the requirements of 18.13 and other applicable provisions of ACI 318 unless modified by Chapter 18 of the International Building Code.~~

1905.5 1905.1.6 Detailed plain concrete structural walls ACI 318, Section 14.6. Detailed plain concrete structural walls are walls conforming to the requirements of ordinary plain concrete structural walls and Section 1905.5.1 of the *International Building Code*.

Modify ACI 318, Section 14.6 by adding new Section 14.6.2 to read as follows:

- ~~14.6.2—Detailed plain concrete structural walls:~~
- ~~14.6.2.1—Detailed plain concrete structural walls are walls conforming to the requirements of ordinary structural plain concrete walls and 14.6.2.2.~~
- ~~14.6.2.2—Reinforcement shall be provided as follows:~~

(a) ~~Vertical reinforcement of at least 0.20 square inch (129 mm²) in cross-sectional area shall be provided continuously from support to support at each corner, at each side of each opening and at the ends of walls. The continuous vertical bar required beside an opening is permitted to substitute for one of the two No. 5 bars required by 14.6.1.~~

~~(b) Horizontal reinforcement at least 0.20 square inch (129 mm²) in cross-sectional area shall be provided:~~

~~1. Continuously at structurally connected roof and floor levels and at the top of walls.~~

~~2. At the bottom of load-bearing walls or in the top of foundations where doweled to the wall.~~

~~3. At a maximum spacing of 120 inches (3048 mm).~~

~~Reinforcement at the top and bottom of openings, where used in determining the maximum spacing specified in Item 3 above, shall be continuous in the wall.~~

Add new text as follows:

1905.5.1 Reinforcement. *Reinforcement shall be provided as follows:*

- Vertical reinforcement of at least 0.20 square inch (129 mm²) in cross-sectional area shall be provided continuously from support to support at each corner, at each side of each opening, and at the ends of walls. The continuous vertical bar required beside an opening is permitted to substitute for one of the two No. 5 bars required by 14.6.1.
- Horizontal reinforcement at least 0.20 square inch (129 mm²) in cross-sectional area shall be provided:
 1. Continuously at structurally connected roof and floor levels and at the top of walls.
 2. At the bottom of load-bearing walls or in the top of foundations where doweled to the wall.
 3. At a maximum spacing of 120 inches (3048 mm).

Reinforcement at the top and bottom of openings, where used in determining the maximum spacing specified in Item 3 above, shall be continuous in the wall.

Revise as follows:

1905.6 1905.1.7 Structural plain concrete ACI 318, Section 14.1.4. Structural plain concrete elements shall comply with this section in lieu of Section 14.1.4 of ACI 318. Delete ACI 318, Section 14.1.4 and replace with the following:

- ~~14.1.4—Plain concrete in structures assigned to Seismic Design Category C, D, E or F.~~
- ~~14.1.4.1—Structures assigned to Seismic Design Category C, D, E or F shall not have elements of structural plain concrete, except as follows:~~
 - ~~Structural plain concrete basement, foundation or other walls below the base as defined in ASCE 7 are permitted in detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls. In dwellings assigned to Seismic Design Category D or E, the height of the wall shall not exceed 8 feet (2438 mm), the thickness shall be not less than 7¹/₂ inches (190 mm), and the wall shall retain no more than 4 feet (1219 mm) of unbalanced fill. Walls shall have reinforcement in accordance with 14.6.1.~~
 - ~~Isolated footings of plain concrete supporting pedestals or columns are permitted, provided the projection of the footing beyond the face of the supported member does not exceed the footing thickness.~~

Exception: ~~In detached one- and two-family dwellings three stories or less in height, the projection of the footing beyond the face of the supported member is permitted to exceed the footing thickness.~~

- ~~Plain concrete footings supporting walls are permitted, provided the footings have at least two continuous longitudinal reinforcing bars. Bars shall not be smaller than No. 4 and shall have a total area of not less than 0.002 times the gross cross-sectional area of the footing. For footings that exceed 8 inches (203 mm) in thickness, a minimum of one bar shall be provided at the top and bottom of the footing. Continuity of reinforcement shall be provided at corners and intersections.~~

Exceptions:

- 1. In Seismic Design Categories A, B and C, detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls are permitted to have plain concrete footings without longitudinal reinforcement.*
- 2. For foundation systems consisting of a plain concrete footing and a plain concrete stemwall, a minimum of one bar shall be provided at the top of the stemwall and at the bottom of the footing.*
- 3. Where a slab on ground is cast monolithically with the footing, one No. 5 bar is permitted to be located at either the top of the slab or bottom of the footing.*

Add new text as follows:

1905.6.1 Seismic Design Categories A and B. In structures assigned to Seismic Design Category A or B, detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls are permitted to have plain concrete footings without longitudinal reinforcement.

1905.6.2 Seismic Design Categories C, D, E and F. Structures assigned to Seismic Design Category C, D, E or F shall not have elements of structural plain concrete, except as follows:

- Structural plain concrete basement, foundation or other walls below the base as defined in ASCE/SEI 7 are permitted in detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls. In dwellings assigned to Seismic Design Category D or E, the height of the wall shall not exceed 8 feet (2438 mm), the thickness shall be not less than $7\frac{1}{2}$ inches (190 mm), and the wall shall retain no more than 4 feet (1219 mm) of unbalanced fill. Walls shall have reinforcement in accordance with 14.6.1.
- Isolated footings of plain concrete supporting pedestals or columns are permitted, provided the projection of the footing beyond the face of the supported member does not exceed the footing thickness.

Exception: In detached one- and two-family dwellings three stories or less in height, the projection of the footing beyond the face of the supported member is permitted to exceed the footing thickness.

- Plain concrete footings supporting walls are permitted, provided the footings have at least two continuous longitudinal reinforcing bars. Bars shall not be smaller than No. 4 and shall have a total area of not less than 0.002 times the gross cross-sectional area of the footing. For footings that exceed 8 inches (203 mm) in thickness, a minimum of one bar shall be provided at the top and bottom of the footing. Continuity of reinforcement shall be provided at corners and intersections.

Exceptions:

1. Where assigned to Seismic Design Category C, detached one- and two-family dwellings three stories or less in height constructed with stud-bearing walls are permitted to have plain concrete footings without longitudinal reinforcement.
2. For foundation systems consisting of a plain concrete footing and a plain concrete stemwall, a minimum of one bar shall be provided at the top of the stemwall and at the bottom of the footing.
3. Footings cast monolithically with a slab-on-ground shall have not fewer than one No. 4 bar at the top and bottom of the footing or one No. 5 bar or two No. 4 bars in the middle third of the footing depth.

Revise as follows:

1905.7 1905.1-8 Design requirements for anchors ACI-318, Section 17.23. Modify ACI-318 Sections 17.10.5.2, 17.10.5.3(d) and 17.10.6.2 to read as follows:

- ~~17.10.5.2 — Where the tensile component of the strength-level earthquake force applied to anchors exceeds 20 percent of the total factored anchor tensile force associated with the same load combination, anchors and their attachments shall be designed in accordance with 17.10.5.3. The anchor design tensile strength shall be determined in accordance with 17.10.5.4.~~

~~**Exception:** Anchors designed to resist wall out-of-plane forces with design strengths equal to or greater than the force determined in accordance with ASCE 7 Equation 12.11-1 or 12.14-10 shall be deemed to satisfy Section 17.10.5.3(d).~~

- ~~17.10.5.3(d) — The anchor or group of anchors shall be designed for the maximum tension obtained from design load combinations that include E, with E increased by Ω_0 . The anchor design tensile strength shall be calculated from 17.10.5.4.~~
- ~~17.10.6.2 — Where the shear component of the strength-level earthquake force applied to anchors exceeds 20 percent of the total factored anchor shear force associated with the same load combination, anchors and their attachments shall be designed in accordance with 17.10.6.3. The anchor design shear strength for resisting earthquake forces shall be determined in accordance with 17.7.~~

Exceptions:

~~1. For the calculation of the in-plane shear strength of anchor bolts attaching wood sill plates of bearing or nonbearing walls of light-frame wood structures to foundations or foundation stem walls, the in-plane shear strength in accordance with 17.7.2 and 17.7.3 need not be computed and 17.10.6.3 shall be deemed to be satisfied provided all of the following are met:~~

~~1.1. The allowable in-plane shear strength of the anchor is determined in accordance with ANSI/AWC NDS Table 12E for lateral design values parallel to grain.~~

~~1.2. The maximum anchor nominal diameter is $\frac{5}{8}$ inch (16 mm).~~

~~1.3. Anchor bolts are embedded into concrete a minimum of 7 inches (178 mm).~~

~~1.4. Anchor bolts are located a minimum of $1\frac{3}{4}$ inches (45 mm) from the edge of the concrete parallel to the length of the wood sill plate.~~

~~1.5. Anchor bolts are located a minimum of 15 anchor diameters from the edge of the concrete perpendicular to the length of the wood sill plate.~~

~~1.6. The sill plate is 2-inch (51 mm) or 3-inch (76 mm) nominal thickness.~~

~~2. For the calculation of the in-plane shear strength of anchor bolts attaching cold-formed steel track of bearing or nonbearing walls of light-frame construction to foundations or foundation stem walls, the in-plane shear strength in accordance with 17.7.2 and 17.7.3 need not be computed and 17.10.6.3 shall be deemed to be satisfied provided all of the following are met:~~

~~Allowable in-plane shear strength of exempt anchors, parallel to the edge of concrete, shall be permitted to be determined in accordance with AISI S100 Section J3.3.1.~~

~~2.1. The maximum anchor nominal diameter is $\frac{5}{8}$ inch (16 mm).~~

~~2.2. Anchors are embedded into concrete a minimum of 7 inches (178 mm).~~

~~2.3. Anchors are located a minimum of $1\frac{3}{4}$ inches (45 mm) from the edge of the concrete parallel to the length of the track.~~

~~2.4. Anchors are located a minimum of 15 anchor diameters from the edge of the concrete perpendicular to the length of the track.~~

~~2.5. The track is 33 to 68 mil (0.84 mm to 1.73 mm) designation thickness.~~

~~3. In light-frame construction bearing or nonbearing walls, shear strength of concrete anchors less than or equal to 1 inch [25 mm] in diameter attaching sill plate or track to foundation or foundation stem wall need not satisfy 17.10.6.3(a) through (c) when the design strength of the anchors is determined in accordance with 17.7.2.1(c).~~

Add new text as follows:

1905.7.1 Anchors in tension. The following exception is permitted to ACI 318 Section 17.10.5.2:

Exception: Anchors designed to resist wall out-of-plane forces with *design strengths* equal to or greater than the force determined in accordance with ASCE/SEI 7 equation 12.11-1 or 12.14-1 shall be deemed to satisfy Section 17.10.5.3(d) of ACI 318.

1905.7.2 Anchors in shear. The following exceptions are permitted to ACI 318 Section 17.10.6.2:

Exceptions:

1. For the calculation of the in-plane shear strength of anchor bolts attaching wood sill plates of bearing or nonbearing walls of light-frame wood structures to foundations or foundation stemwalls, the in-plane shear strength in accordance with 17.7.2 and 17.7.3 need not be computed and 17.10.6.3 of ACI 318 shall be deemed to be satisfied provided all of the following are met:

1.1. The allowable in-plane shear strength of the anchor is determined in accordance with ANSI/AWC NDS Table 12E for lateral design values parallel to grain.

1.2. The maximum anchor nominal diameter is $\frac{5}{8}$ inch (16 mm).

1.3. Anchor bolts are embedded into concrete a minimum of 7 inches (178 mm).

1.4. Anchor bolts are located a minimum of $1\frac{3}{4}$ inches (45 mm) from the edge of the concrete parallel to the length of the wood sill plate.

1.5. Anchor bolts are located a minimum of 15 anchor diameters from the edge of the concrete perpendicular to the length of the wood sill plate.

1.6. The sill plate is 2-inch (51 mm) or 3-inch (76 mm) nominal thickness.

2. For the calculation of the in-plane shear strength of anchor bolts attaching cold-formed steel track of bearing or nonbearing walls of light-frame construction to foundations or foundation stemwalls, the in-plane shear strength in accordance with 17.7.2 and 17.7.3 need not be computed and 17.10.6.3 shall be deemed to be satisfied provided all of the following are met:

Allowable in-plane shear strength of exempt anchors, parallel to the edge of concrete, shall be permitted to be determined in accordance with AISI S100 Section J3.3.1.

2.1. The maximum anchor nominal diameter is $\frac{5}{8}$ inch (16 mm).

2.2. Anchors are embedded into concrete a minimum of 7 inches (178 mm).

2.3. Anchors are located a minimum of $1\frac{3}{4}$ inches (45 mm) from the edge of the concrete parallel to the length of the track.

2.4. Anchors are located a minimum of 15 anchor diameters from the edge of the concrete perpendicular to the length of the track.

2.5. The track is 33 to 68 mil (0.84 mm to 1.73 mm) designation thickness.

3. In light-frame construction bearing or nonbearing walls, shear strength of concrete anchors less than or equal to 1 inch [25 mm] in diameter attaching sill plate or track to foundation or foundation stemwalls need not satisfy 17.10.6.3(a) through (c) when the design strength of the anchors is determined in accordance with 17.7.2.1(c).

Reason: This proposal makes a conceptual change in Section 1905, without introducing any substantive change. The section is reformatted so that, instead of amending certain sections of ACI 318 19, it contains provisions that are supplemental to those of ACI 318-19. The new format is believed to be more user-friendly. As part of this format change existing provisions have been relocated to the following new subsections: 1905.3.1, 1905.5.1, 1905.6.1, 1905.7.1, and 1905.7.2.

1901.2, 1901.3 - The changes reflect the conceptual change in section 1905.

1902.1 - The two existing subsections are deleted as being unnecessary. The new Subsection 1902.1 .1 is added in view of the introduction of Design Earthquake displacement in ACE 7-22, which includes diaphragm displacement under the Design Earthquake. To avoid unnecessary calculations, the latter is permitted to be taken equal to zero for diaphragms that can be idealized as rigid.

1903.2 (old numbering) - This section is deleted because it is a repeat of Section 1901.6.

1903.2 - This is essentially the correction of an error. The 2021 IBC already refers to PCI 128-19 *Specification for Glass Fiber Reinforced Concrete Panels* in chapter 35. However, Section 1903.3, now 1903.2, still refers to the old PCI MNL 128, which was a recommended practice document, not a standard.

1905.1 - The language implements the conceptual change made to Section 1905

1905.2 - The two new definitions are introduced because they have been added to Chapter 14 of ASCE 7-22, which will not be adopted by the 2024 IBC.

1905.1 .2 (old numbering) - This is deleted as being unnecessary.

1905.3 - Deletions and additions implement the conceptual change made to Section 1905.

1905.1 .4 (old numbering) - This is deleted as being unnecessary.

1905.4 - Additions and deletions implement the conceptual change made to Section 1905

1905.5 - Additions and deletions implement the conceptual change made to Section 1905. The remaining text of 1905.5 is improved for ease of use.

1905.6 - In addition to reflecting the conceptual change mentioned above, changes have been made to correct a structural problem with the existing section. The section is applicable to SDC C, D, E, and F structures. Yet, there is an exception made for SDC A, B structures. This has now been straightened out.

1905.7 - In addition to implementing the conceptual change made to Section 1905, much unnecessary text is deleted to produce a much more streamlined section.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or

portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
No substantive change has been made in the entire chapter.

S196-22

IBC: 2211.3 (New); IPC: 307.2, 307.3 (New), [BS] C101.5, [BS] C101.6; IMC: [BS] 302.5, [BS] 302.5.2, [BS] 302.5.3; IFGC: [BS] 302.6, [BS] 302.7

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Add new text as follows:

2211.3 Cutting, notching, and boring. The cutting, notching and boring of holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members.

2021 International Plumbing Code

Revise as follows:

307.2 Cutting, notching and boring in wood framing, or bored holes. A wood framing member shall not be cut, notched or bored in excess of limitations specified in the *International Building Code*.

Add new text as follows:

307.3 Cutting, notching and boring in cold-formed steel framing. The cutting, notching and boring of holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members.

Delete without substitution:

~~[BS] C101.5 Cutting, notching and boring holes in cold-formed steel framing.~~ Flanges and lips of load-bearing cold-formed steel framing members shall not be cut or notched. Holes in webs of load-bearing cold-formed steel framing members shall be permitted along the centerline of the web of the framing member and shall not exceed the dimensional limitations, penetration spacing or minimum hole edge distance as prescribed by the registered design professional. Cutting, notching and boring holes of steel floor/roof decking shall be as prescribed by the registered design professional.

~~[BS] C101.6 Cutting, notching and boring holes in nonstructural cold-formed steel wall framing.~~ Flanges and lips of nonstructural cold-formed steel wall studs shall not be cut or notched. Holes in webs of nonstructural cold-formed steel wall studs shall be permitted along the centerline of the web of the framing member, shall not exceed $1\frac{1}{2}$ inches (38 mm) in width or 4 inches (102 mm) in length, and the holes shall not be spaced less than 24 inches (610 mm) center to center from another hole or less than 10 inches (254 mm) from the bearing end.

2021 International Mechanical Code

Revise as follows:

[BS] 302.5 Cutting, notching and boring in cold-formed steel framing. The cutting, notching and boring of holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members. The cutting, notching and boring of steel framing members shall comply with Sections 302.5.1 through 302.5.3.

Delete without substitution:

~~[BS] 302.5.2 Cutting, notching and boring holes in cold-formed steel framing.~~ Flanges and lips of load-bearing cold-formed steel framing members shall not be cut or notched. Holes in webs of load-bearing cold-formed steel framing members shall be permitted along the centerline of the web of the framing member and shall not exceed the dimensional limitations, penetration spacing or minimum hole edge distance as prescribed by the registered design professional. Cutting, notching and boring holes of steel floor/roof decking shall be as prescribed by the registered design professional.

~~[BS] 302.5.3 Cutting, notching and boring holes in non-structural cold-formed steel wall framing.~~ Flanges and lips of nonstructural cold-formed steel wall studs shall not be cut or notched. Holes in webs of nonstructural cold-formed steel wall studs shall be permitted along the centerline of the web of the framing member, shall not exceed $1\frac{1}{2}$ inches (38 mm) in width or 4 inches (102 mm) in length, and shall not be spaced less than 24 inches (610 mm) center to center from another hole or less than 10 inches (254 mm) from the bearing end.

2021 International Fuel Gas Code

Revise as follows:

[BS] 302.6 Cutting, notching and boring holes in cold-formed steel framing. The cutting, notching and boring of holes in cold-formed steel framing members shall be in accordance with AISI S240 for structural members and AISI S220 for non-structural members. Flanges and lips of load-bearing, cold-formed steel framing members shall not be cut or notched. Holes in webs of load-bearing, cold-formed steel framing members shall be permitted along the centerline of the web of the framing member and shall not exceed the dimensional limitations, penetration spacing or minimum

hole edge distance as prescribed by the *registered design professional*. Cutting, notching and boring holes of steel floor/roof decking shall be as prescribed by the *registered design professional*.

Delete without substitution:

~~**[BS] 302.7 Cutting, notching and boring holes in non-structural cold-formed steel wall framing.** Flanges and lips of nonstructural cold-formed steel wall studs shall be permitted along the centerline of the web of the framing member, shall not exceed 1½ inches (38 mm) in width or 4 inches (102 mm) in length, and the holes shall not be spaced less than 24 inches (610 mm) center to center from another hole or less than 10 inches (254 mm) from the bearing end.~~

Reason: This proposal sets uniform requirements for field modifications to cold-formed steel framing members (cutting, notching, and boring holes) in accordance with AISI standards.

Currently, the IFGC, IMC, and IPC all provide guidance on modification of cold-formed steel framing elements within the path of utilities. Although the guidance provided by each code is similar, they are not identical in wording or scope and are handled differently within each document.

Differences include but are not limited to:

- IFGC, IMC: The cutting and notching criteria is within the main body of the code.
- IFGC, IMC: Includes direction for wood, steel, cold-formed steel, and non-structural cold-formed steel materials.
- IPC: Points to the IBC for cutting and notching criteria but provides Appendix C as an alternate.
- IPC Appendix C:
 - Includes some, but not all, cutting and notching criteria and limitations found within the IFGC and IMC.
 - Does not address steel and cold-formed materials.

This will provide clear and consistent criteria across all trades on how to field modify framing members and when modification of such members requires input from a design professional.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal is a coordination of existing cutting, notching and boring provisions that are already used in practice but are not identical between codes or fully aligned with AISI standards.

Staff Analysis: CC# S196-22 and CC# S224-22 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

S223-22

IBC: 2308.1, 2308.1.1, 2308.1.2, 2308.2, 2308.3 (New), 2308.4 (New), 2308.5 (New), 2308.8, 2308.8.1, 2308.8.2

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

2308.1 General. The requirements of this section are intended for buildings of conventional light-frame construction not exceeding the height limitations of Section 2308.2.1. Other construction methods are permitted to be used, provided that a satisfactory design is submitted showing compliance with other provisions of this code. Interior nonload-bearing partitions, ceilings and curtain walls of *conventional light-frame construction* are not subject to the limitations of Section 2308.2. Detached one- and two-family dwellings and townhouses not more than three *stories above grade plane* in height with a separate *means of egress* and their accessory structures shall comply with the *International Residential Code*.

Delete without substitution:

~~**2308.1.1 Portions exceeding limitations of conventional light-frame construction.** Where portions of a building of otherwise *conventional light-frame construction* exceed the limits of Section 2308.2, those portions and the supporting load path shall be designed in accordance with accepted engineering practice and the provisions of this code. For the purposes of this section, the term “portions” shall mean parts of buildings containing volume and area such as a room or a series of rooms. The extent of such design need only demonstrate compliance of the nonconventional light-framed elements with other applicable provisions of this code and shall be compatible with the performance of the conventional light-framed system.~~

~~**2308.1.2 Connections and fasteners.** Connectors and fasteners used in conventional construction shall comply with the requirements of Section 2304.10.~~

2308.2 Limitations. Buildings are permitted to be constructed in accordance with the provisions of *conventional light-frame construction*, subject to the limitations in Sections 2308.2.1 through 2308.2.6.

Add new text as follows:

2308.3 Portions or elements exceeding limitations of conventional light frame construction. Where a building of otherwise *conventional light-frame construction* contains portions or structural elements that exceed the limits of Section 2308.2, those portions or elements, and the supporting load path, shall be designed in accordance with accepted engineering practice and the provisions of this code. For the purposes of this section, the term “portions” shall mean parts of buildings containing volume and area such as a room or a series of rooms. The extent of such design need only demonstrate compliance of the nonconventional light-framed elements with other applicable provisions of this code and shall be compatible with the performance of the conventional light-framed system.

2308.4 Structural elements or systems not described herein. Where a building of otherwise conventional construction contains structural elements or systems not described in Section 2308, these elements or systems shall be designed in accordance with accepted engineering practice and the provisions of this code. The extent of such design need only demonstrate compliance of the nonconventional elements with other applicable provisions of this code and shall be compatible with the performance of the conventionally framed system.

2308.5 Connections and fasteners. Connectors and fasteners used in conventional construction shall comply with the requirements of Section 2304.10.

Delete without substitution:

~~**2308.8 Design of elements.** Combining of engineered elements or systems and conventionally specified elements or systems shall be permitted subject to the limits of Sections 2308.8.1 and 2308.8.2.~~

~~**2308.8.1 Elements exceeding limitations of conventional construction.** Where a building of otherwise conventional construction contains structural elements exceeding the limits of Section 2308.2, these elements and the supporting *load* path shall be designed in accordance with accepted engineering practice and the provisions of this code.~~

~~**2308.8.2 Structural elements or systems not described herein.** Where a building of otherwise conventional construction contains structural elements or systems not described in Section 2308, these elements or systems shall be designed in accordance with accepted engineering practice and the provisions of this code. The extent of such design need only demonstrate compliance of the nonconventional elements with other applicable provisions of this code and shall be compatible with the performance of the conventionally framed system.~~

Reason: The purpose of this code change is to emphasize the limitations on story height for conventional construction and to editorially rearrange related sections so they make more sense.

Section 2308 contains prescriptive construction requirements for small wood-frame construction that is outside the scope of the IRC. Just like in the IRC, in order to keep things simple there needs to be limits on things like environmental loads, live and dead loads, number of stories, and sizes of certain building elements. Section 2308.2 provides these limitations. However, the section before that, 2308.1.1, allows “portions” of buildings that exceed these limits to be built as long as the portion is designed. The BCAC believes the intent is to permit exceeding the limits in

certain cases, but not to permit exceeding the story height limits of Section 2308.2.1. So the first change adds the limitation in the very first section that the story limitation of 2308.2.1 is the absolute minimum, just as the IRC does.

Looking at the organization of this section, 2308.1.1 describes what to do when “portions” exceed the limitations. Then 2308.2 describes all the limitations. Then much later in the section, 2308.8 describes what to do when “elements” exceed the limits for Conventional Construction.

It makes more sense to have the limitations at the beginning of the section, and then combine the sections on “portions” and “elements” that exceed the limitations right after that.

The section on “design of elements” seems unrelated enough that it should have its own section, also at the beginning of the Section. Finally, Section 2308.1.2 on Fasteners and Connectors seems like it should not be placed before the limitations of the entire section. It is proposed to move it after the sections on Limitations and design of portions and elements that exceed those limitations.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

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Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change is a clarification of current code requirements.

S224-22

IBC: SECTION 2308.3 (New), 2308.3.1 (New), 2308.3.2 (New), 2308.3.2.1 (New), 2308.3.3 (New), 2308.3.4 (New), 2308.3.5 (New), 2308.4.2.4, 2308.5.9, 2308.5.10, 2308.7.4; IPC: 307.2, 307.3 (New), [BS] C101.1, [BS] C101.2, [BS] C101.3; IMC: [BS] 302.3, [BS] 302.3.1, [BS] 302.3.2, [BS] 302.3.3; IFGC: [BS] 302.3, [BS] 302.3.2, [BS] 302.3.3, [BS] 302.3.4

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Add new text as follows:

SECTION 2308.3 CUTTING, NOTCHING AND BORING

2308.3.1 Scope. The provisions of Section 2308.3 shall only apply to dimensional wood framing and shall not include engineered wood products, heavy timber, or pre-fabricated/manufactured wood assemblies.

2308.3.2 Floor joists, roof rafters, and ceiling joists. Notches on framing ends shall not exceed one-fourth the member depth. Notches in the top or bottom of the member shall not exceed one-sixth the depth and shall not be located in the middle third of the span. A notch not more than one-third of the depth is permitted in the top of a rafter or ceiling joist not further from the face of the support than the depth of the member. Holes bored in members shall not be within 2 inches (51 mm) of the top or bottom of the member and the diameter of any such hole shall not exceed one-third the depth of the member. Where the member is notched, the hole shall not be closer than 2 inches (51 mm) to the notch.

2308.3.2.1 Ceiling joists. Where ceiling joists also serve as floor joists, they shall be considered floor joists within this section.

2308.3.3 Wall studs. In exterior walls and bearing partitions, a wood stud shall not be cut or notched in excess of 25 percent of its depth. In nonbearing partitions that do not support loads other than the weight of the partition, a stud shall not be cut or notched in excess of 40 percent of its depth.

2308.3.4 Bored holes. The diameter of bored holes in wood studs shall not exceed 40 percent of the stud depth. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in nonbearing partitions. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in any wall where each stud is doubled, provided that not more than two such successive doubled studs are so bored. The edge of the bored hole shall not be closer than $\frac{5}{16}$ inch (15.9 mm) to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.

2308.3.5 Limitations. In designated lateral-force resisting system assemblies designed in accordance with this code and greater than three-stories in height or in Seismic Design Categories C, D, E, and F, the cutting, notching and boring of wall studs shall be as prescribed by the registered design professional.

In structures designed in accordance with the International Residential Code, modification of wall studs shall comply with the International Residential Code.

Delete without substitution:

~~2308.4.2.4 Notches and holes.~~ Notches on the ends of joists shall not exceed one-fourth the joist depth. Notches in the top or bottom of joists shall not exceed one-sixth the depth and shall not be located in the middle third of the span. Holes bored in joists shall not be within 2 inches (51 mm) of the top or bottom of the joist and the diameter of any such hole shall not exceed one-third the depth of the joist.

~~2308.5.9 Cutting and notching.~~ In exterior walls and bearing partitions, a wood stud shall not be cut or notched in excess of 25 percent of its depth. In nonbearing partitions that do not support loads other than the weight of the partition, a stud shall not be cut or notched in excess of 40 percent of its depth.

~~2308.5.10 Bored holes.~~ The diameter of bored holes in wood studs shall not exceed 40 percent of the stud depth. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in nonbearing partitions. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in any wall where each stud is doubled, provided that not more than two such successive doubled studs are so bored. The edge of the bored hole shall not be closer than $\frac{5}{16}$ inch (15.9 mm) to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.

~~2308.7.4 Notches and holes.~~ Notching at the ends of rafters or ceiling joists shall not exceed one-fourth the depth. Notches in the top or bottom of the rafter or ceiling joist shall not exceed one-sixth the depth and shall not be located in the middle one-third of the span, except that a notch not more than one-third of the depth is permitted in the top of the rafter or ceiling joist not further from the face of the support than the depth of the member. Holes bored in rafters or ceiling joists shall not be within 2 inches (51 mm) of the top and bottom and their diameter shall not exceed one-third the depth of the member.

2021 International Plumbing Code

Revise as follows:

307.2 Cutting, notching and boring of cold-formed steel framing, or bored holes. A cold-formed framing member shall not be cut, notched or bored in excess of limitations specified in the *International Building Code*.

Add new text as follows:

307.3 Cutting, notching and boring of wood framing. The cutting, notching and boring of structural wood framing members shall comply with Section 2308.3 of the *International Building Code*.

Delete without substitution:

[BS] C101.1 Joist notching. Notches on the ends of joists shall not exceed one-fourth the joist depth. Holes bored in joists shall not be within 2 inches (51 mm) of the top or bottom of the joist, and the diameter of any such hole shall not exceed one-third the depth of the joist. Notches in the top or bottom of joists shall not exceed one-sixth the depth and shall not be located in the middle third of the span.

[BS] C101.2 Stud cutting and notching. In exterior walls and bearing partitions, a wood stud shall not be cut or notched in excess of 25 percent of its depth. In nonbearing partitions that do not support loads other than the weight of the partition, a stud shall not be cut or notched in excess of 40 percent of its depth.

[BS] C101.3 Bored holes. The diameter of bored holes in wood studs shall not exceed 40 percent of the stud depth. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in nonbearing partitions. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in any wall where each stud is doubled, provided that not more than two such successive doubled studs are so bored. The edge of the bored hole shall be not closer than $\frac{5}{16}$ inch (15.9 mm) to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.

2021 International Mechanical Code

Revise as follows:

[BS] 302.3 Cutting, notching and boring in wood framing. The cutting, notching and boring of wood framing members shall comply with Sections 2308.3 of the *International Building Code*, 302.3.1 through 302.3.4.

Delete without substitution:

[BS] 302.3.1 Joist notching. Notches on the ends of joists shall not exceed one-fourth the joist depth. Holes bored in joists shall not be within 2 inches (51 mm) of the top or bottom of the joist, and the diameter of any such hole shall not exceed one-third the depth of the joist. Notches in the top or bottom of joists shall not exceed one-sixth the depth and shall not be located in the middle third of the span.

[BS] 302.3.2 Stud cutting and notching. In exterior walls and bearing partitions, a wood stud shall not be cut or notched in excess of 25 percent of its depth. In nonbearing partitions that do not support loads other than the weight of the partition, a stud shall not be cut or notched in excess of 40 percent of its depth.

[BS] 302.3.3 Bored holes. The diameter of bored holes in wood studs shall not exceed 40 percent of the stud depth. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in nonbearing partitions. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in any wall where each stud is doubled, provided that not more than two such successive doubled studs are so bored. The edge of the bored hole shall be not closer than $\frac{5}{16}$ inch (15.9 mm) to the edge of the stud. Bored holes shall be not located at the same section of stud as a cut or notch.

2021 International Fuel Gas Code

Revise as follows:

[BS] 302.3 Cutting, notching and boring in wood members. The cutting, notching and boring of wood framing members shall comply with Sections 2308.3 of the *International Building Code*, 302.3.1 through 302.3.4.

Delete without substitution:

[BS] 302.3.2 Joist notching and boring. Notching at the ends of joists shall not exceed one-fourth the joist depth. Holes bored in joists shall not be within 2 inches (51 mm) of the top and bottom of the joist and their diameters shall not exceed one-third the depth of the member. Notches in the top or bottom of the joist shall not exceed one-sixth the depth and shall not be located in the middle one-third of the span.

[BS] 302.3.3 Stud cutting and notching. In exterior walls and bearing partitions, any wood stud is permitted to be cut or notched to a depth not exceeding 25 percent of its width. Cutting or notching of studs to a depth not greater than 40 percent of the width of the stud is permitted in nonload-bearing partitions supporting no loads other than the weight of the partition.

[BS] 302.3.4 Bored holes. The diameter of bored holes in wood studs shall not exceed 40 percent of the stud depth. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in nonbearing partitions. The diameter of bored holes in wood studs shall not exceed 60 percent of the stud depth in any wall where each stud is doubled, provided that not more than two such successive doubled studs are so bored. The

~~edge of the bored hole shall be not closer than $\frac{5}{8}$ inch (15.9 mm) to the edge of the stud. Bored holes shall not be located at the same section of stud as a cut or notch.~~

Reason: This proposal consolidates similar wood cutting, notching and boring criteria from the IFGC, IMC, IPC, and IBC into a single location in the IBC, and does not impose new requirements or restrict any practices currently allowed within the I-Codes. The proposed language draws from current language in the IPC, IMC, and IFGC and IBC provisions in the conventional light-framed section. The existing language was used to the greatest extent possible and relocated to minimize technical changes.

Within the IBC, existing wood framing notching, cutting and boring provisions have been relocated into a single new Section 2308.3. This reorganization into one location makes the IBC provisions easy to find and will provide clear and consistent criteria across all trades on how to field modify framing members and when modification of such members requires input from a design professional.

Structural framing members are frequently modified in the field by non-structural trades, to facilitate the installation of mechanical, electrical, plumbing, and other utilities. Especially in conventional light-framed wood construction, such modifications are rarely overseen by a design professional with knowledge of critical framing elements that should remain unmodified and the role they play within the structure.

It is unrealistic to expect field personnel to continually seek the guidance of a design professional for every framing member requiring modification. However, modifications of critical framing members have the potential to negatively impact the integrity of the structure and the utility systems that rely on that structure for support. The resulting structural deficiencies caused by field modifications to framing members may only be realized during significant high-wind, seismic, impact, or other loading events that, while within the normal structure design criteria, are outside every day operating conditions. At best, such deficiencies may be realized by local deformation of finish materials and at worst, by partial or full collapse of a structure.

Currently, the IFGC, IMC, IPC, and IBC all provide guidance on modification of structural framing elements within the path of utilities. Although the guidance provided by each code is similar, they are not identical in wording or scope and are handled differently within each document.

Differences include but are not limited to:

- IFGC, IMC: The cutting and notching criteria is within the main body of the code.
- IFGC, IMC: Includes direction for wood, steel, cold-formed steel, and non-structural cold-formed steel materials.
- IPC: Points to the IBC for cutting and notching criteria but provides Appendix C as an alternate. · IPC Appendix C
 - Includes some, but not all, cutting and notching criteria and limitations found within the IFGC and IMC.
 - Does not address steel and cold-formed materials.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/>.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The proposal consolidates existing and slightly varied provisions from multiple locations into one location within the wood chapter of the International Building Code.

Staff Analysis: CC# S196-22 and CC# S224-22 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

S225-22

IBC: 2308.4.4.1, FIGURE 2308.4.4.1(1), 2308.7.6.1

Proponents: Mike Nugent, representing Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

2308.4.4.1 Openings in floor diaphragms in Seismic Design Categories B, C, D and E. Openings in horizontal *diaphragms* in *Seismic Design Categories* B, C, D and E with a dimension that is greater than 4 feet (1219 mm) perpendicular to the joists or rafters shall be constructed with metal ties and blocking in accordance with this section and Figure 2308.4.4.1(1). Metal ties shall be not less than 0.058 inch [1.47 mm (16 galvanized gage)] in thickness by 1¹/₂ inches (38 mm) in width and shall have a yield stress not less than 33,000 psi (227 Mpa). Blocking shall extend not less than the dimension of the opening in the direction of the tie and blocking. Ties shall be attached to blocking in accordance with the manufacturer's instructions but with not less than eight 16d common nails on each side of the header-~~joist~~-trimmer intersection.

Delete and substitute as follows:

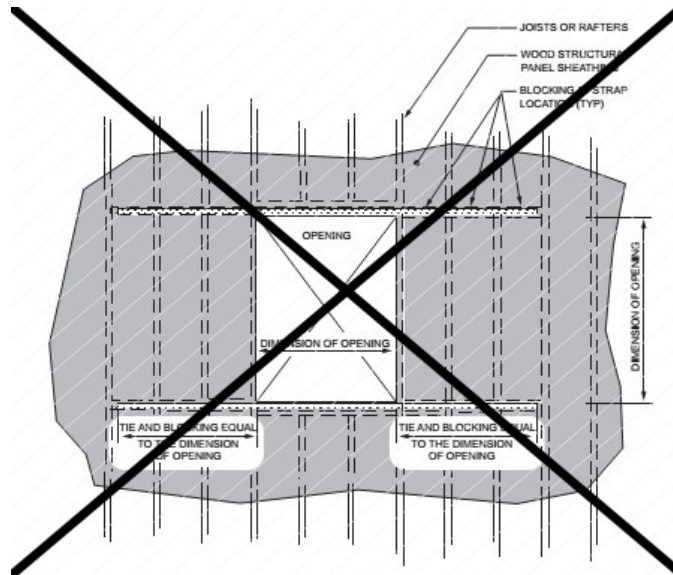
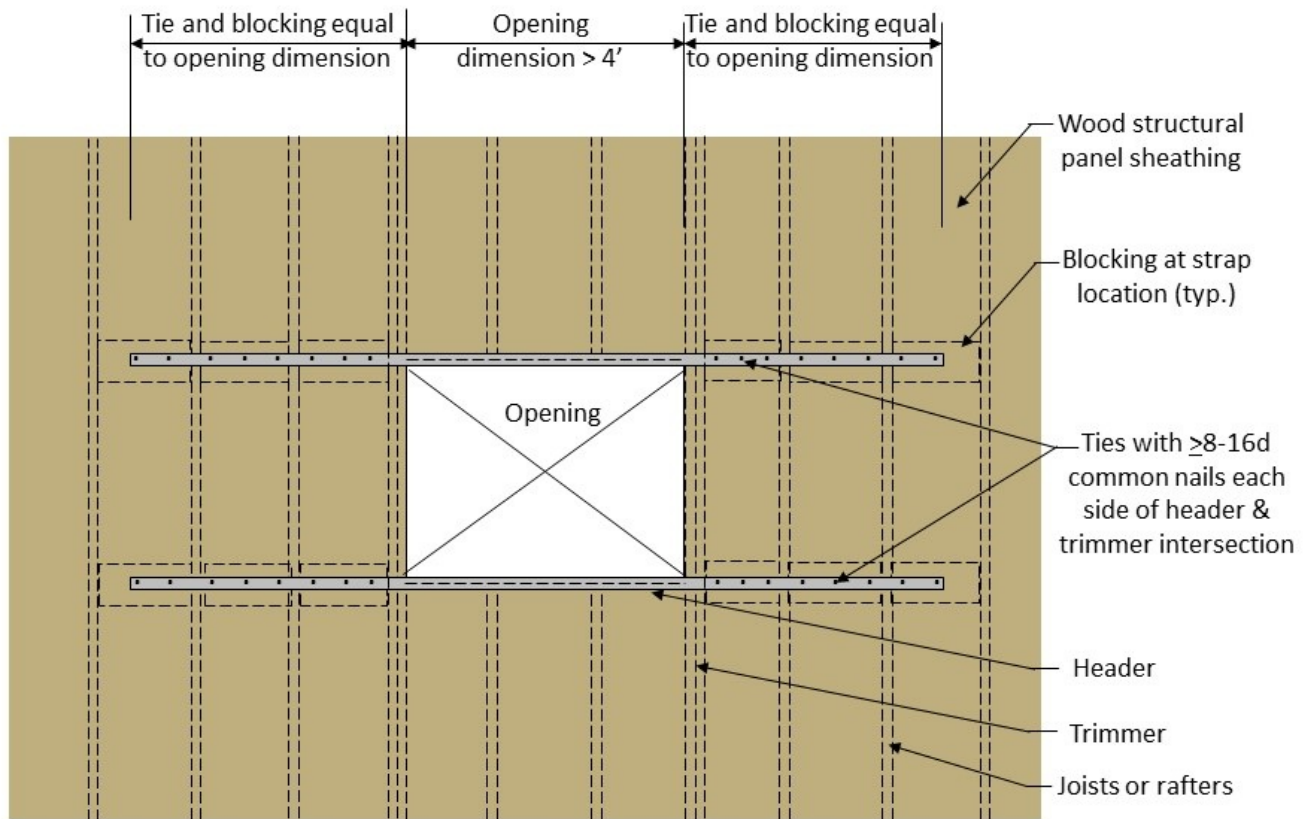


FIGURE 2308.4.4.1(1) OPENINGS IN FLOOR AND ROOF DIAPHRAGMS



SDC B, C, D and E

FIGURE 2308.4.4.1(1) OPENINGS IN FLOOR AND ROOF DIAPHRAGMS

Revise as follows:

2308.7.6.1 Openings in roof diaphragms in Seismic Design Categories B, C, D and E. In buildings classified as *Seismic Design Category B, C,*

D or E. openings in horizontal *diaphragms* with a dimension that is greater than 4 feet (1219 mm) perpendicular to the joists or rafters shall be constructed with metal ties and blocking in accordance with this section and Figure 2308.4.4.1(1). Metal ties shall be not less than 0.058 inch [1.47 mm (16 galvanized gage)] in thickness by 1½ inches (38 mm) in width and shall have a yield stress not less than 33,000 psi (227 Mpa). Blocking shall extend not less than the dimension of the opening in the direction of the tie and blocking. Ties shall be attached to blocking in accordance with the manufacturer's instructions but with not less than eight 16d common nails on each side of the header-~~joist~~-trimmer intersection.

Reason: This proposal clarifies the current code text by adding "perpendicular to the joists or rafters", replaces joist by trimmer and revise Figure 2308.4.4.1(1). The purpose of this prescriptive solution is "to strengthen openings greater than 4 feet in dimension perpendicular to the joists and provide a general means for a load path in these specific cases in lieu of requiring an engineered design." The text of Sections 2308.4.4.1 and 2308.7.6.1 indicates that this provision applies when a floor diaphragm opening exceeds 4 feet. It details blocking and strapping perpendicular to the joists.

Sections 2308.4.4 and 2308.7.6.1 indicate that trimmers are to be doubled when the header span exceeds 4 feet, so the current Figure 2308.4.4.1(1) should be revised to show a double trimmer on each side of the opening. Since those trimmers are typically continuous, they act as collectors on either side of the opening parallel to the joists. Additional revisions to the figure as shown provide consistency with the code text. In summary, proposed changes to Figure 2308.4.4.1(1) include the following:

- Double trimmer shown on each side of the opening
- Remove vertical dimension of the opening
- Add opening dimension >4' perpendicular to joists
- Add nailing requirements as shown based on code text

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Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification of the current code text.