BCAC IEBC Work Group Suggestions Based on 2018 IEBC text

ITEM	SECTION	TOPIC	Notes	
IEBC 10-1	1011.2.1	Sprinklers in Change of occupancy	Revised 9-17 9-18 – back to study group	
IEBC 10-2	1011.1.1, 1022.1.1.1, 1011.1.1.2	Change of occupancy classification back to Chapters 9 (8 and 7)	9-18 – back to study group	
IEBC 10-3	1011.2.1 Ex	One and two family dwellings	9-18 – back to study group	
IEBC 4-1	401.1	Repair or alteration or new building	9-18 – back to study group	
IEBC 13-1	Chapter 13	Performance method	Do not move forward	
IEBC 1-1	Chapter 1	Maintenance	Move to Admin work group	
IEBC 3-1	301.1	Applicability of exception in Section 301.3	Move forward	
IEBC 6-1	603.1, 801.3	Work area/reconfigured Definition – clarity that there is not always a work area	Do not move forward	
IEBC 13-2	1301.6.16.1	Mixed Occupancies	9-18 – back to study group	
IEBC 6-2	601.3(New)	Total work area	Move forward	
IEBC 6-3	608	Relocated buildings	Move forward	
IEBC 12-1	1201.3	Museums	Move forward	
IEBC 10-4	1011.4.1	MOE	9-18 – back to study group	
IEBC 12-2	1203.3	MOE	Move forward	
IEBC 13-3	1301.6.2	Allowable building area	9-18 – move forward	
IEBC 13-4	Table 1301.6.3	Compartmentation values	9-18 – move forward	
IEBC 3-2	301.5, 305	Additional info from IBC/A117. Coordination with 2017 ICC A117.1 group 9-18 – move for		
IEBC 15-1	1505.2	MOE	Revised 9-17	
IEBC 5-1	501.1	Bleachers - ICC 300 reference	Move forward	

IEBC 5-2	505	Emergency escape and rescue openings	Revised 9-17 – in process but move forward
IEBC 11-1	1106	Storm shelters - ICC 500 reference	9-18-in process but move forward
IEBC 10-5	1011.1.1.1, 1011.1.1.2	add horizontal assemblies as an option	9-18 – back to study group
			New
IEBC 13-5	1301.1	Scope of performance method	

IEBC 10-1 Sprinklers in Change of occupancy

Original idea: Chapter 10 Change of Occupancy Section 1011 Change of Occupancy classification 1011.2 Fire protection systems.....

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*, such system shall be provided throughout the area where the *change of occupancy occurs*. The installation of the automatic sprinkler system shall be required within the area of the *change of occupancy occurs*.

- 1. Non rated permanent partition
- 2. <u>Fire Partition</u>
- 3. <u>Smoke Partition</u>
- 4. <u>Smoke Barrier</u>
- 5. <u>Fire Barrier</u>
- 6. <u>Fire wall</u>

Reason: Issue worth exploring in more detail is how we deal with Change of Occupancy classification and looking at how the sprinkler requirements are intended to be applied. Especially a problem with residential occupancies. Was fire area intended? Just area of the actual change of occupancy? Should there be some physical separation but not rated? Below is a first attempt at clarifying this issue.

Cost impact:

Suggestion from Study group: Chapter 10 Change of Occupancy Section 1011 Change of Occupancy classification 1011.2 Fire protection systems

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*, such system shall be provided throughout the area where the *change of occupancy* occurs. The installation of the automatic sprinkler system shall be required within the area of the *change of occupancy* and adjacent areas of the building not separated by construction with a minimum of a 1-hour fire-resistance rating and complying with one of the following:

1. <u>Fire Partitions constructed in accordance with Section 708 of the International Building Code</u>

- 2. <u>Smoke Partitions constructed in accordance with Section 710 of the International Building</u> <u>Code</u>
- 3. <u>Smoke Barriers constructed in accordance with Section 709 of the International Building Code</u>
- 4. <u>Fire Barriers constructed in accordance with Section 707 of the International Building Code</u>
- 5. Fire Walls constructed in accordance with Section 706 of the International Building Code
- 6. <u>Horizontal Assemblies constructed in accordance with Section 711.2 of the International</u> <u>Building Code</u>

Reason: The proposal provides additional compliance options for the change of occupancy classification within existing buildings. Sprinkler protection is still required in the work area where the use change occurs, but the other existing areas not undergoing this change would not require sprinkler protection if separated from the work area by one of the assemblies listed in the proposal. It seems reasonable that a minimum one-hour separation be required and that the listed assemblies be installed in accordance with all applicable portions of the referenced Sections. What is very important is that the chosen separation meet both the minimum fire rating but also be applied as specified in each of the Sections based on use, situation and location.

Cost impact: This proposal reduces the cost; as automatic fire sprinkler systems would be limited the work area if properly compartmentalized.

Staff Question: Regarding the exception - If the building is reconfigured for the change of occupancy, can the sprinkler system remain without also being reconfigured? Such as an NFPA 13 system in a single family home?

9-18-2018: Needs work –

Add smoke barrier for hospitals and nursing home separation (talk to Healthcare), add horizontal assemblies to separate uses. Not always practical for NFPA 13 system in a reconfigure house. Maybe to include anything with ½ hour rating for partial change of occupancy – where you stop adding sprinklers in a work area. Consider broadening allowance. Study Group is Mike Nugent, Gary Ehrlich, Sarah Rice, Bruce Johnson

Address exception in 10-3.

IEBC 10-2 Change of occupancy classification back to Chapters 9 (8 and 7)

Chapter 10 Change of Occupancy Section 1011 Change of Occupancy classification 1011.1 General.....

Original idea:

1011.1.1 Compliance with Chapter 9. <u>Regardless of whether there are alterations within the area undergoing</u> <u>a change of occupancy</u>, the requirements of Chapter 9 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1011.1.1.1 and 1011.1.1.2.

1011.1.1 Change of occupancy classification without separation. Where a portion of an *existing building* is changed to a new occupancy classification 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*, and that portion is not separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the *International Building Code* for the separate occupancy <u>or based upon the fire area separation requirements</u>, the entire building shall comply with all of the requirements of Chapter 9 applied throughout the building for the most restrictive occupancy classification in the building and with the requirements of this chapter.

1011.1.1.2 Change of occupancy classification with separation. Where a portion of an *existing building* is changed to a new occupancy classification 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*, and that portion is separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the *International Building Code* for the separate occupancy <u>or based upon the fire area separation requirements</u>, that portion shall comply with all of the requirements of Chapter 9 for the new occupancy classification and with the requirements of this chapter.

Reason: Want to also understand that when IEBC sends you back to Chapter 9 (8 and 7) that you look at as whole building work area or only if alteration. Seems to me this is substitute for full IBC compliance so making the whole building a "work area" despite being no alterations is reasonable but not sure what the intent was. I am guessing the enforcement of this varies considerably. Also how do you provide separation from a same occupancy if they send you back to occupancy separations. Perhaps a specific rated separation is noted within the IEBC for this purpose or reliance on fire area separations. Below is my attempt assuming that the intent is that we treat the change of occupancy like a work area even where no alterations are occurring.

Question: "Changes of occupancy, with or without alterations..." as an alternative in 1011.1.1

Cost impact:

Suggestion from Study group -

Chapter 10 Change of Occupancy Section 1011 Change of Occupancy classification 1011.1 General.....

1011.1.1 Compliance with Chapter 9. Where the work area with a change of occupancy includes Level 2 or Level 3 alterations, the requirements of Chapter 9 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1011.1.1.1 and 1011.1.1.2.

1011.1.1 Change of occupancy classification without separation. Where a portion of an *existing building* is changed to a new occupancy classification 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*, and that portion is not separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the *International Building Code* for the separate occupancy or based upon the fire area separation requirements, separations as specified in Section 1011.2 of this code for the separate occupancy view, the entire building shall comply with all of the requirements of Chapter 9 applied throughout the building for the most restrictive occupancy classification in the building and with the requirements of this chapter.

1011.1.1.2 Change of occupancy classification with separation. Where a portion of an *existing building* is changed to a new occupancy classification 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*, and that portion is separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the *International Building Code* separations as specified in Section 1011.2 of this code for the separate occupancy classification and with the requirements of this chapter.

Reason: Previously this section was silent regarding alterations and required that Level 3 alteration (which also include all Level 1 and 2 alteration requirements) be applied to changes of occupancy classifications whether or not alterations occurred. The proposed language clarifies that Chapter 9 is applied only when there are Level 2 and Level 3 alterations. The proposed changes to the subsections provide pointers to the proposed change IEBC 10-1, which is intended to provide additional compliance options for the change of occupancy classification within existing buildings.

Cost impact: This proposal reduces the cost; as upgrades would not be required for use category changes without alterations and addition fire separation options provide additional savings.

9-18-2018: Needs work - COO requirements for alterations are in IEBC Chapter 9 – need a clear reference for where this would apply in partial or complete change of occupancy. Really need to look at 1301.2.2.

Adding "based upon the fire area" increases option. The current interpretation can be just the work area, or the entire building. What limits do you want? What if something is not separated? Or there is no fire area – like Residential?

Study Group is Mike Nugent, Gary Ehrlich, Sarah Rice, Bruce Johnson

IEBC 10-3 IEBC One and two family dwellings

Chapter 10 Change of Occupancy Section 1011 Change of Occupancy classification 1011.2 Fire protection systems.....

Original idea:

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*, such system shall be provided throughout the area where the *change of occupancy* occurs.

Exception: An automatic sprinkler system shall not be required where a building will be a one or two family dwelling. Where a building is already equipped with an automatic sprinkler system such system shall remain.

Reason: I know this is ongoing but perhaps discuss generally and see where fixes may be necessary. I think an admin change did deal with (in the first phase of the 2016 process) this issue but what about change of occupancy from I-2, or B to single family home. Weird shift but I have heard those questions. Next issue is do they need sprinklers or when you get to the IRC they are looked at more like and alteration and they do not. This is one way of dealing with but could deal with in Chapter 3 potentially noting that changes in occupancy that result in the building becoming a one and two family dwelling can simply comply with the IRC as an existing building. The big issue is likely sprinklers so thus the following solution.

Question: What if the current system is a NFPA13 System and the new would allow for an NFPA 13R or 13D system?

Cost impact:

Suggestion from study Group

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*, such system shall be provided throughout the area where the *change of occupancy* occurs.

Exceptions:

- 1. An automatic sprinkler system shall not be required where a building will be a one or two family dwelling in compliance with the IRC.
- 2. Where an occupancy does not require a sprinkler system, the system can be removed.

Reason: This proposal clarifies that the option of removing a fire suppression system from an existing structure that is being converted to a use that would not require the system is available.

Cost impact: The removal of the fire suppression system and collateral repairs may increase costs, however, if the structure were older and the system derelict, there may be a reduction in costs if the system were not required to be repaired.

Question: What if the current system is a NFPA13 System and the new would allow for an NFPA 13R or 13D system?

9-18-2018: Needs work -

See also notes to 10-1. Deal with exception separately. Not practical to keep NFPA13 system if the walls are reconfigured. IBC single family does have to be sprinklered, so if you add the exception, it has to be IRC buildings.

Can you take out a non-required system?

Study Group is Mike Nugent, Gary Ehrlich, Sarah Rice, Bruce Johnson

IEBC 4-1 Repair or alteration or new building

Chapter 4 Repairs

401.1 Scope. Repairs shall comply with the requirements of this chapter. Repairs to *historic buildings* need only comply with Chapter 12. <u>A building, where only the foundation remains or</u> where an entire story or more is replaced, shall be reconstructed in accordance with the *International Building Code*. Where a repair includes the reconfiguration of space it shall meet the requirements for a Level 2 or 3 alteration, as applicable.

Reason: Issue with fires or tornados etc destroying all or a good chunk of a building. Back to IBC or can they build back the way it was. I think the approach is mixed. Here is a basic attempt at addressing. This will cover tornados, fires etc. Note that this also helps people get the true value for reconstruction as the insurance industry may sometimes classify a new building (or a replacement of the large portion or an entire story) as a repair and funding is limited. I do have concerns for the grey area of how extensive the damage is whether a repair is appropriate.

Cost impact:

9-18-2018: Continue with discussion. Maybe need to look at definition for repair. Consider using substantial damage limitations. Study Group is Gary Ehrlich, Bruce Johnson

IEBC 13-1 Performance method

In addition to the following revisions Chapter 3 would need to be modified to remove this as an independent method.

Chapter 5 Prescriptive Compliance Method Section 503 Alterations

[B] 503.1 General. Except as provided by Section 302.4, 302.5 or this section, *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 no less conforming to 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 1009 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 1009.12 of the *International Building Code* shall not be required to comply with the requirements of Section 1012.6 of the *International Building Code* regarding full extension of the handrails where such extensions would be hazardous due to plan configuration.
- 3. Where provided in below-grade transportation stations, existing and new escalators shall have a clear width of less than 32 inches (815 mm).
- 4. Buildings or portions thereof complying with Chapter 13 shall not be required to comply with this section for means of egress, fire safety and general safety.

Section 506 Change of Occupancy

506.2 Non structural safety requirements. Buildings or portions thereof complying with Chapter 13 shall not be required to comply with Section 506 for means of egress, fire safety and general safety.

Section 507 Historic Buildings

507.3 Nonstructural safety requirements. Buildings or portions thereof complying with Chapter 13 shall not be required to comply with Section 507 for means of egress, fire safety and general safety.

Chapter 8 Alterations Level 1

Section 801 General

801.1 Scope. Level 2 *alterations* as described in Section 603 shall comply with the requirements of this chapter. **Exception** Exceptions:

- <u>1.</u> Buildings in which the reconfiguration is exclusively the result of compliance with the accessibility requirements of Section 305.7 shall be permitted to comply with Chapter 7.
- 2. Compliance with Sections 803 and 805 is not required when the building is in compliance with Chapter 14.

CHAPTER 13 PERFORMANCE COMPLIANCE SCORING METHODS

SECTION 1301 GENERAL

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.

[BS]1301.3.3 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*.

[BS] 1301.4.1 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*.

Reason: This is a significant shift in the structure of the code but one to begin considering for the long run. Consider making merely a scoring method that could be applied to relieve from portions of the prescriptive method or work area method instead of being a standalone method. Don't think it was considered as such but when Chapter 34 was split in half that was the end result. Does not deal with structural well where Chapter 4 and work area method have been revised heavily to be more reasonable for existing buildings. Also the scoring method itself is focused on nonstructural life safety issues only. I know we have added a bunch of band aids to address the rest but the core feature of that chapter was only meant for those issues.

Question: The reference in 801.1 is fire protection and means of egress. What is general safety? What are fire safety, means of egress and general safety sections in Chapter 5 **Cost impact:**

Do not move forward.

IEBC 1-1 Maintenance provision from Chapter 34

1XX.X Maintenance. Buildings and structures, and parts thereof, shall be maintained in a safe and sanitary condition. Devices or safeguards which are required by this code shall be maintained in conformance with the code edition under which installed. The owner or the owner's designated agent shall be responsible for the maintenance of buildings and structures. To determine compliance with this subsection, the *building official* shall have the authority to require a building or structure to be reinspected. The requirements of this chapter shall not provide the basis for removal or abrogation of fire protection and safety systems and devices in existing structures.

Reason: There has been concern that this section was lost when Chapter 34 was deleted and this section disappeared (3401.2 2012 IBC). Some view this as losing the grandfathering ability in the IBC. I view this as a mandate to maintain as built which may also be necessary. There are similar statements in various codes (usually in chapter 1) that require such maintenance but tend to focus on systems such as mechanical or fire protection. Should this be placed in Chapter 1 of the IBC?

Question:

[A] **REPAIR.** The reconstruction, replacement or renewal of any part of an *existing building* for the purpose of its maintenance or to correct damage.

Should this new section be included in Chapter 1 or under Chapter 4 – repairs? "Maintain" is used in the text a lot for the requirements.

IEBC 305.2 talks about maintenance of accessibility.

IEBC 1501.3, 1501.6.6, 1505.2 talk about maintenance in construction safeguards.

Cost impact:

IEBC 3-1 Exception in Section 301.3

Chapter 3 Provisions for all compliance methods

SECTION 301 ADMINISTRATION

301.1 General. The *repair*, *alteration*, *change of occupancy*, *addition* or relocation of all *existing buildings* shall comply with Section 301.2, 301.3, or 301.4.

301.2 Repairs. *Repairs* shall comply with the requirements of Chapter 4.

301.3 Alteration, addition or change of occupancy. The *alteration, addition* or *change of occupancy* of all *existing buildings* shall comply with one of the methods listed in Section 301.3.1, 301.3.2 or 301.3.3 as selected by the applicant. Sections 301.3.1 through 301.3.3 shall not be applied in combination with each other.

Exception: Subject to the approval of the *code official, alterations* complying with the laws in existence at the time the building or the affected portion of the building was built shall be considered in compliance with the provisions of this code. New structural members added as part of the *alteration* shall comply with the *International Building Code*. This exception shall not apply to alterations that constitute accessibility improvements, which shall comply with Section 305. This exception shall not apply to alterations that constitute substantial improvement in *flood hazard areas*, which shall comply with Section 503.2, 701.3 or 1301.3.3. This exception shall not apply to the structural provisions of Chapter 5 or to the structural provisions of Sections 706, 806 and 906.

Reason: Essentially besides from some structural and flood issues the code official could allow complete exemption from this code. The largest concern is the accessibility pieces which we address in this code because of the ADA will affect them in either case. Without this link we are potentially causing legal issues for many building owners by not requiring compliance with the accessibility provisions of the IEBC for alterations.

Question: Original proposal was based on 2015 text. This section has been extensively revised. Need to propose revision to exception is still needed. Code change was EB10-15(AS), EB8-16(AMPC1) EB6-15 (AS) EB10-15 (AS) EB1-15 (AS) EB7-16 (AS) – reorganization. No one revised the exception.

Cost impact:

IEBC 6-1 Work area/reconfigured Definition – clarity that there is not always a work area

(NEW) RECONFIGURATION OF SPACE. The rearrangement or change in the floor plan of a building or space.

(Attempt at clarifying what is measured and what is not. It may or may not agree with current view by some jurisdictions but I really would like to get a sense of how this applied. If it gets shot down we will at least have more background information for commentary.)

CHAPTER 6 CLASSIFICATION OF WORK SECTION 603 ALTERATION—LEVEL 2

603.1 Scope. Level 2 *alterations* include the reconfiguration of space, the addition or elimination of any door or window, the reconfiguration or extension of any system, or the installation of any additional equipment.

Exception: The movement or addition of nonfixed and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches (1753mm) in height shall not be considered reconfiguration of space.

Question is do we regulate furniture layout in IBC. IF so we should not deal with it more restrictively in the IEBC. IN general the issue is whether it is considered "reconfiguration of space" that would create a work area that would possibly lead to a level 3 alteration. This could be as simple as moving a couple couches around to the addition or rearrangement of cubicles in an office space. Where is the line drawn? Should rearrangement of cubicles create a "work area?" This is borrowed from the permit exceptions in the IBC.

Code change EB5-13 tried to address this concern but was ultimately disapproved. This went a little further trying to emphasize that despite the fact that there is no work area egress still needs to be addressed.

CHAPTER 8 ALTERATIONS—LEVEL 2 SECTION 801 General

801.3 Life Safety System installations. Requirements related to work area are not applicable where the Level 2 alteration only involves the installation of smoke detection systems, smoke alarms and automatic sprinkler systems.

(Level 2 alterations include installation of systems that did not exist or are extended. It does not seem appropriate to make things harder for a designer to require more when they are installing life safety systems. Perhaps more specific language as it relates to the IFC requirements might be necessary.)

Other code change related to reconfiguration of space. Both were disapproved.

- EB7-13
- EB45-13

Reason: There are many issues of confusion in determining what is considered a "work area." The definition of "work area" specifically states "reconfiguration of space." In my opinion it addresses when the floor plan (egress etc) changes not when an HVAC system is installed in a building. Also what is included in reconfiguration – furniture/cubicles? Part of the confusion with this issue is that there seems to be a need to establish a **work area** where in some cases none exist. It can still be a level 2 alteration but with no work area associated with it. This does not mean that there are no regulations just that it will not necessarily make some provisions applicable such as t hose related to egress or move it into a level 3 alteration situation. This issue can be a very black and white issue but there are many shades of Gray. Some suggestions are above.

Cost impact:

9-4-2018 & 9-18-2018: Do not move forward

9-18-2018: What is included in a work area? What happens when you add electrical and don't change space, or movement of large office layouts? Adding seismic makes an alteration that not change the space? Maybe items not requiring a permit is not a reconfiguration of space. Maybe look at outside of permit exception in 105.2 Item 6?

IEBC 13-2 Mixed Occupancies

Chapter 13 Performance Compliance Method SECTION 1301 GENERAL 9-17-2018: Notes from Jim Smith

1301.6 Evaluation process..... 1301.6.16 Mixed occupancies...

1301.6.16.1 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 or of not less than twice that required by Section 508.4 of the *International Building Code*. Where no separation is required by Section 508.4 of the *International Building Code* the separation between occupancies shall be in accordance with Table 707.3.10 of the *International Building Code*.

JBS Suggestion on alternative language for 3.

3. Category c – Separations between occupancies having a fire-resistance rating of not less than twice the 1hour, 2-hour, 3-hour or 4-hour fire-resistance ratings that are specified in Table 508.4 where that required by Section 508.4 of the *International Building Code*.

Below is a snapshot of Table 508.4 so it is easily available for review/use

	REGULED SEPARATION OF OCCUPANCIES (10083)																							
OCCUPANCY	Α, Ε	Α, Ε		A , E		A, E	I-1ª, I	-3, I-4	ŀ	-2	F	} ª	F-2, S	6-2 [♭] , U		-1, M, -1	н	-1	н	-2	H-3,	H-4	н	-5
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS				
A, E	Ν	Ν	1	2	2	NP	1	2	N	1	1	2	NP	NP	3	4	2	3	2	NP				
I-1ª, I-3, I-4	—		N	N	2	NP	1	NP	1	2	1	2	NP	NP	3	NP	2	NP	2	NP				
I-2	—	_	—	—	Ν	N	2	NP	2	NP	2	NP	NP	NP	3	NP	2	NP	2	NP				
R ^a	_	_	_	_	_	_	N	Ν	1°	2°	1	2	NP	NP	3	NP	2	NP	2	NP				
F-2, S-2 ^b , U	_		—	_	_	—	_	—	N	N	1	2	NP	NP	3	4	2	3	2	NP				
B ^e , F-1, M, S-1	—	_	-	—	_	—	—	—	—	—	Ν	N	NP	NP	2	3	1	2	1	NP				
H-1	—		—	_		—		—	—	—	_	—	N	NP	NP	NP	NP	NP	NP	NP				
H-2	—		—	_	_	—	—	—	—	—	_	—	—	_	N	NP	1	NP	1	NP				
H-3, H-4	-		—	_	_	—	_	—	—	_	_	—	—		—	—	1 ^d	NP	1	NP				
H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Ν	NP				

TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES (HOURS)¹

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.

N = No separation requirement.

NP = Not Permitted.

a. See Section 420.

b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but not to less than 1 hour.

c. See Section 406.3.2.

d. Separation is not required between occupancies of the same classification.

e. See Section 422.2 for ambulatory care facilities.

f. Occupancy separations that serve to define fire area limits established in Chapter 9 for requiring fire protection systems shall also comply with Section 707.3.10 and Table 707.3.10 in accordance with Section 901.7.

Reason: This section has not been updated in a very long time. Likely this correlated with the occupancy separations that contained fire area separations now found in Table 706.4. In many cases there are no separations

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BCAC IEBC Work Group – September 20, 2018

therefore technically you could apply category 3 and provide no separations. Not sure this was the intent and that the provisions were originally based upon some type of separation. This is just one idea as to how this might be dealt with. Generally an overall review of the provisions in Chapter 13 based upon current building codes would require. This will need work depending upon the solution chosen. If using the JBS concept we might want to include Table 508.4.

As you can see I could not rationalize complicating this by bringing in Table 706.4. with a keep it simple thought I instead referred to Table 508.4 and included the "as if" language recognizing that the entire building might not fall under the separated mixed use "requirement".

Question: IBC Section 508.4 is occupancy separation. Section 707.3.10 if fire area separation. 9-18-2018 – Did not get to this one. Study group is Jim Smith, Sarah Rice, Bruce Johnson

Cost impact:

IEBC 6-2 IEBC Section 601.3 NEW

Chapter 6 Classification of Work Section 601 General

601.3. Total Work area. Where multiple alterations are done to a building within a 2 year period the total work area shall be based upon the aggregate of those areas

or

601.3. Total Work area. Where multiple alterations are done to a building within a time period established by the adopting ordinance the total work area shall be based upon the aggregate of those areas

Reason: This proposal addresses a common compliant that designers simply do smaller projects one right after another to avoid meeting the 50% work area threshold which would trigger requirements such as sprinklers. Therefore this proposal is trying to set a time frame in which the aggregate of work areas can be assessed. The balance is encouraging folks to reuse existing buildings without making it so difficult that they make no improvements to the building. It is delicate and difficult balance. Two concepts are presented which set specific time frame of 2 years (could be different) and the other leaving that time frame to be established by the jurisdiction.

Cost impact:

9-4-2108: Move forward

IEBC 6-3 IEBC Section 608

Chapter 6 Classification of Work

Delete without substitution:

SECTION 608 RELOCATED BUILDINGS

608.1 Scope. Relocated building provisions shall apply to relocated or moved buildings.

608.2 Application. Relocated buildings shall comply with the provisions of Chapter 14.

Reason: Section 301.4 already denotes that outside the three methods that relocated buildings are addressed by Chapter 14.

Cost impact:

9-4-2018: Move forward. Kim to check with William Koffel.

IEBC 12-1 IEBC Section 1201.3

Chapter 12 Historic Buildings Section 1201 General

Revise as follows:

1201.3 Special occupancy exceptions—museums. Where a building in Group R-3 is used for Group A, B or M purposes such as museum tours, exhibits, and other public assembly activities, or for museums less than 3,000 square feet (279 m2), the *code official may* is authorized to determine that the occupancy is Group B where life safety conditions can be demonstrated in accordance with Section 1201.2. Adequate means of egress in such buildings, which may includes but are not limited to a means of maintaining doors in an open position to permit egress, a limit on building occupancy to an occupant load permitted by the means of egress capacity, a limit on occupancy of certain areas or floors, or supervision by a person knowledgeable in the emergency exiting procedures, shall be provided.

Reason: This addresses non mandatory language.

Cost impact:

9-4-2018: Move forward

IEBC 10-4 IEBC Sections 1011.4.1 and 1011.7.4

Chapter 10 Change of Occupancy Section 1011 Change of occupancy classification Revise as follows:

1011.4.1 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 1011.4, 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 805.5.1, 805.5.2 and 805.5.3.
- 6. Existing dead-end corridors shall comply with the requirements in Section 805.6.
- 7. An existing operable window with clear opening area not less than 4 square feet (0.38 m²) and minimum opening height and width of 22 inches (559 mm) and 20 inches (508 mm), respectively, shall be accepted as an emergency escape and rescue opening.

1011.7.4 Openings. Openings into existing vertical shaft enclosures shall be protected by fire assemblies having a fire protection rating of not less than 1 hour and shall be maintained self-closing or shall be automatic-closing by actuation of a smoke detector. Other openings shall be fire protected in an *approved* manner. Existing fusible linktype automatic door-closing devices shall be permitted in all shafts except stairways if the fusible link rating does not exceed 135°F (57°C).

Exception: Stairways shall be enclosed in compliance with the applicable provisions of Section 903.1.

Reason: This is an editorial correction. Without this exception, the means of egress allowance to use the provisions of Section 903.1 (and 802.2) would not be applicable in change of occupancy classification with alterations projects. This will make the requirements consistent and provide a pointer to 903.1.

Cost impact: The proposal is an editorial correction and may reduce potential costs by providing design options.

9-18-2018: Need work – Section 903.1 has more options. Maybe not an exception, but a reference. Also look at 1011.7.2 and 1011.4.1 Exception 1. Study group is Mike Nugent, Sarah Rice, Gary Erlich and Bruce Johnson

IEBC 12-2 IEBC Section 1203.3

Chapter 12 Historic Buildings Section 1203 Fire Safety

Revise as follows:

1203.3 Means of egress. 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 Existing door openings and corridor and stairway widths are not required to meet the widths required by the *International Building Code* or less than those specified elsewhere in this code may be *approved*, provided that, 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. 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: This addresses non mandatory language and also addresses the fact that this is likely intending to refer also to the IBC.

Cost impact:

Note 9-4-2018: Kim was told to check terminology. "In the opinion of the code official" is used in the IEBC in 108.3, 116.1, 116.1, 805.2, 1201.2, 1203.3, 1204.6. 9-18-2018: move forward

IEBC 13-3 IEBC Section 1301.6.2, 1301.6.2.1 and 1301.6.2.2

Chapter 13 Performance Compliance Method Section 1301 General 1301.6 Evaluation process.....

Revise as follows:

1301.6.2 Building area. The value for building area shall be determined by the formula<u>s</u> in Section 1301.6.2.1 shall be used to determine the allowable area of the building. Subtract the actual building area from the allowable area and divide by 1,200 square feet (112 m²). Enter the area value and its sign (positive or negative) in Table 1301.7 under Safety Parameter 1301.6.2, 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, Mandatory Safety Scores. Group I-2 occupancies shall be scored zero.

1301.6.2.1 Allowable area formula. The following formula shall be used in computing allowable area:

 $A_a = A_t + (NS \times I_f)$ (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 Area formula. The following formula<u>s</u> 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 For each occupancy, choose the minimum area value of the set of values obtained for the particular occupancy <u>shall be used as the area value for that occupancy</u>.

For single occupancy buildings:

Area value = (Allowable area-Actual area)/1200 square feet (Equation 13-4)

For multiple occupancy buildings:



(Equation 13-4 <u>13-5</u>)

where:

i = Value for an individual separated occupancy on a floor. n = Number of separated occupancies on a floor.

Reason: This section as written is confusing and does not differentiate well between single occupancy buildings and multiple occupancy buildings. This proposal creates two equations to address this.

Cost impact: This code change proposal would not increase or decrease the cost of construction.

This proposed code change is clarification of existing code language and neither adds to or decreases cost of construction.

9-18-2018: Waiting for input from Tom Prichard (included 9-20-2018)

IEBC 13-4 IEBC Table 1301.6.3

Chapter 13 Performance Compliance Method Section 1301 General 1301.6 Evaluation process..... Revise as follows:

	CATEGORIESª									
OCCUPANCY	a Compartment size equal to or greater than 15,000 square feet	b Compartment size of 10,000 square feet	c Compartment size of 7,500 square feet	d Compartment size of 5,000 square feet	e Compartment size of 2,500 square feet or less					
A-1, A-3	0	6	10	14	18					
۹-2	0	4	10	14	18					
A-4, B, E, S-2	0	5	10	15	20					
[–] , M, R, S-1	0	4	10	16	22					

TABLE 1301.6.3 COMPARTMENTATION VALUES

For SI:1 square foot = 0.0929 m^2 .

a. For areas between categories, the compartmentation value shall be obtained by linear interpolation.

Reason: This table when placed in the IEBC never carried over the footnote a that was found in the same table in the IBC Chapter 34. This question arises and this appears within the intent to allow interpolation.

Cost impact: This code change proposal would not increase or decrease the cost of construction.

This proposed change is a coordination item between the IEBC and the IBC and neither adds to or decreases cost of construction.

9-18-2018: Waiting for input from Tom Prichard (added 9-20-2018)

IEBC 3-2 IEBC 301.5, 305

Chapter 3 Provisions for all compliance methods SECTION 301 ADMINISTRATION

301.5 Compliance with accessibility. Accessibility requirements for *existing buildings* shall comply with the 2009 edition of ICC A117.1.

SECTION 305 ACCESSIBILITY FOR EXISTING BUILDINGS

305.1 Scope. The provisions of Sections 305.1 through 305.9 apply to maintenance, *change of occupancy*, *additions* and *alterations* to *existing buildings*, including those identified as *historic buildings*.

<u>305.2 Design.</u> Buildings and facilities shall be designed and constructed to be *accessible* in accordance with this code and ICC A117.1.

<u>305.3</u> 305.2 Maintenance of facilities. A *facility* that is constructed or altered to be *accessible* shall be maintained *accessible* during occupancy.

Reason: The 2017 A117.1 now has provisions for existing buildings, so there is no longer a reason to limit the reference to the 2009 ICC A117.1. The standard should still be referenced in the IEBC, and within the accessibility section.

Cost impact:

Question: There will be an IBC/A117.1 Coordination work group working on this. Additional proposals will be forwarded to the BCAC. The 2017 A117.1 has many separate provisions for existing buildings. How this will work with Section 305.4 (change of occupancy), 305.5 (additions where 305.7 is through the existing building) and 305.7 (accessible route) will need to be clarified.

Cost impact:

IEBC 15-1 IEBC 1505.2

CHAPTER 15 CONSTRUCTION SAFEGUARDS SECTION 1505 MEANS OF EGRESS

[F] 1505.2 Maintenance of means of egress. <u>Required</u> Means of egress, <u>including and required</u> accessible means of egress shall be maintained at all times <u>from occupied potions of a building</u> during construction, demolition, remodeling or *alterations* and *additions* to any building.

Exception: Existing <u>permanent</u> means of egress need not be maintained where *approved* temporary means of egress and accessible means of egress systems and facilities are provided.

Reason: This proposal is editorial in nature to clarify the expectations for continuity during construction for all means of egress and to recognize that building are often times not occupiable during construction, which changes the accommodation expectation.

Cost impact: There is no cost impact, this proposed change is editorial in nature.

9-18-2018: Waiting for input from Amber Armstrong (input from Mike Nugent 9-20-2018)

Discussion: Accessible means of egress was added last cycle. This took "required" off of the general means of egress. This could be read to apply to building that are vacant. It appears to be applicable to buildings that are partially occupied during construction. If this is intended for means of egress for the construction crew, that should be dealt with separately and not include accessible means of egress. Construction sites are not required to be accessible.

IEBC 5-1 IEBC 301.1, 501.1 Chapter 5 Prescriptive Compliance method Section 501 General

501.1 Scope. The provisions of this chapter shall control the *alteration, addition* and *change of occupancy* of *existing buildings* and structures, including *historic buildings* and structures as referenced in Section 301.3.2. **Exception:** Existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.

Chapter 3 Provisions for all Compliance methods Section 301 General

301.1 General. The *repair*, *alteration*, *change of occupancy*, *addition* or relocation of all *existing buildings* shall comply with Section 301.2, 301.3, or 301.4.

301.1.1 Bleachers, grandstands and folding and telescopic seating. Existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.

Chapter 4 Repairs Section 401 General

Revised 9-17

401.1 Scope. *Repairs* shall comply with the requirements of this chapter. *Repairs* to *historic buildings* need only comply with Chapter 12.

401.1 Bleachers, grandstands and folding an telescopic seating. Repairs to existing bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.

Chapter 14 Relocated or Moved Buildings Section 1401 General

1401.1 Scope. This chapter provides requirements for relocated or moved structures, including *relocatable buildings* as defined in Chapter 2.

1401.1 Bleachers, grandstands and folding an telescopic seating. Relocated or moved bleachers, grandstands and folding and telescopic seating shall comply with ICC 300.

Reason: The bleacher safety standard includes provisions for new construction as well as maintenance, repair, alterations and relocation of bleachers. The current reference for alterations is only in the prescriptive method. It should be applicable for all methods, thus the addition to Chapter 3. In addition, this is a requirement, not an exception – currently Section 501.1 has this as an exception.

ICC 300 includes provisions for repairs and moved bleachers. Therefore, a reference should be added into the chapter for repairs (Chapter 4) and relocated buildings(Chapter 14). These chapters are not covered by Chapter 3.

Cost impact: Will not increase. As the proposed change is only affecting the location of the pointer for greater clarity, there is no cost impact to the proposed change.

9-18-2018: Input from George O'Neill added. Move forward.

IEBC 5-2 Proposal 10: Part 1 Also IEBC 5-2 EEROs in Alterations (COO in Part 2)

Revised 9-21

[BE] EMERGENCY ESCAPE AND RESCUE OPENING. An operable exterior window, door or other similar device that provides for a means of escape and access for rescue in the event of an emergency.

IEBC Chapter 5 Prescriptive Compliance method	IEBC Chapter 7 Alterations Level 1	IRC APPENDIX J EXISTING BUILDINGS AND STRUCTURES					
SECTION 505 WINDOWS AND EMERGENCY ESCAPE OPENINGS	SECTION 702 BUILDING ELEMENTS AND MATERIALS	SECTION AJ102 COMPLIANCE					
505.1 Replacement glass. The installation or replacement of glass shall be as required for new installations.		AJ102. 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 AJ102.4.1 through AJ102.4.4, as applicable.					
505.2 Window opening control	702.4 Window opening control	AJ102. 4. 4 Window control					
devices on replacement windows	devices on replacement windows. In	devices. Where window					
Replacement window opening control devices. 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 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. 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 top of	Group R-2 or R-3 buildings containing dwelling units, and one- and two- family dwellings and townhouses regulated by the <i>International</i> <i>Residential Code</i> , window opening control devices <u>or fall prevention</u> <u>devices</u> 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. 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 top of the sill of the window	fall prevention devices complying with ASTM F2090 are not provided, window opening control devices <u>or fall preventions</u> <u>devices</u> 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. The window replacement includes replacement of the sash and the frame. 3. The top of the sill of the window opening is at a height less than 24 inches (610 mm) above the					
Group B 2019							

the sill 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 top of the sill 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 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).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1030.2 of the *International Building Code.*

Exceptions: Exception:

1. Operable windows where the top of the sill 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.

 Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090. 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 top of the sill 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 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).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1030.2 of the International Building Code.

Exceptions: Exception:

- Operable windows where the top of the sill 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 ASTM F2090.

finished floor. 4. The window will permit openings that will allow passage of a 4-inchdiameter (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).

The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit.

505.3 Replacement window 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 Sections 1030.2, 1030.3 and 1030.4 (note: this us size, height and window well) of the International Building Code and Sections R310.2 and R310.4 R310.2.1, R310.2.2 and R310.2.3 of 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. <u>Where</u> The replacement of the window is not part of a *change* of occupancy it shall comply with Section 1011.4.6. (See 1011.4.1 Exception 7 and notes).

505.3.1 Control devices. Emergency escape and rescue openings with Window opening control devices or <u>fall</u> 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 shall be permitted for use on windows required to provide emergency escape and rescue openings. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.

702.5 Replacement window 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 Sections 1030.2, 1030.3 and 1030.4 (note: this us size, height and window well) of the International Building Code and Sections R310.2 and R310.4 R310.2.1, R310.2.2 and R310.2.3 of 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. <u>Where</u> The replacement of the window is not part of a *change* of occupancy <u>it shall comply</u> with Section 1011.4.6. (See 1011.4.1 Exception 7 and notes).

702.5.1 Control devices. Emergency escape and rescue openings with Window opening control devices or <u>fall</u> 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 shall be permitted for use on windows required to provide emergency escape and rescue openings. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.

AJ102.4.3 Emergency escape and rescue

openings. Where windows are required to provide emergency escape and rescue openings, replacement windows shall be exempt from the maximum sill height requirements of Section R310.2.2 and the requirements of Sections R310.2.1 and R310.2.3 (note: this us size, height and window well) R310.2 and

R310.4 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. The replacement window is not part of a change of occupancy. (IRC Appendix J does not address COO)

3. Window opening control devices complying with ASTM F2090 shall be permitted for use on windows required to provide 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.
	Section 701 General	
505.4 Emergency escape and rescue	702.6 701.4 Emergency escape and	
openings Bars, grilles, covers or	rescue openings Bars, grilles, covers	
screens. Emergency escape and rescue	or screens. Emergency escape and	
openings shall be operational from the	rescue openings shall be operational	
inside of the room without the use of	from the inside of the room without the	
keys or tools. Bars, grilles, grates	use of keys or tools. Bars, grilles, grates	
covers, screens or similar devices are	covers, screens or similar devices are	
permitted to be placed over emergency	permitted to be placed over emergency	
escape and rescue openings, bulkhead	escape and rescue openings, bulkhead	
enclosure or window wells that serve	enclosure or window wells that serve	
such openings, provided that the	such openings, provided that the	
minimum net clear opening size	minimum net clear opening size	
complies with the code that was in	complies with the code that was in	
effect at the time of construction and	effect at the time of construction and	
such devices shall be releasable or	such devices shall be releasable or	
removable from the inside without the	removable from the inside without the	
use of a key, tool or force greater than	use of a key, tool or force greater than	
that which is required for normal	that which is required for normal	
operation of the escape and rescue	operation of the escape and rescue	
opening. Where such bars, grilles,	opening. Where such bars, grilles,	
grates covers, screens or similar	grates covers, screens or similar	
devices are installed, they shall not	devices are installed, they shall not	
reduce the net clear opening of the	reduce the net clear opening of the	
emergency escape and rescue openings.	emergency escape and rescue openings.	
Smoke alarms shall be installed in	Smoke alarms shall be installed in	
accordance with Section 907.2.10 of	accordance with Section 907.2.10 of	
the International Building Code	the International Building Code	
regardless of the valuation of the	regardless of the valuation of the	
alteration.	alteration.	

Reason:

Coordination with proposals for Emergency Escape and Rescue openings for IBC and IRC started by BCAC committee MOE work group in Group A.

505.2, 702.3–In the current text it is difficult to see how the exceptions apply. Be separating out the requirement for emergency escape and rescue openings, the allowance for ASTM F2006 (exception 1) in taller buildings is clearer. Since both opening control devices and fall prevention devices are addressed in ASTM F2090, that can be addressed in the main text, and does not need to be an exception 2.

505.3, 702.4 - The purpose of the revision to this section is to move all the requirements for EEROs into one section. By moving the requirements for opening control/fall prevention devices from 505.2 to 505.3 is becomes clear that 505.3 allowed for non-compliance with Section 1030.2 (EERO size) and 505.2 required it. This is one option for resolution of that conflict. The sentence about operation is relocated from 505.4 – however, it is arguable if it is needed since the requirement is in IBC 1030.1.1 and IRC R310.1.1 for EEROs. The changes to the

referenced section in the main text is correlative with the revisions to EERO's accepted in Group A for IBC and proposed for EERO's in IRC as part of Group B.

505.4, 701.4 - The revisions are consistent in what was approved for IBC Section 1030.5 and IRC Section 310.4 in the 2018 codes. Move 701.4 should be relocated to the window provisions. That would be consistent with the organization for EEROs in IBC and IRC and the IEBC prescriptive method.

9-18-2018 Notes from BCAC IEBC work group: First part is good as three separate code changes – replacement windows, EEROs and cover.

There was concern about the 4'-0" area for COO with higher hazard. A COO with the same or lower hazard is not currently addressed. How do we fix this? Also conflict with replacement windows saying allowance is not permitted for COO – then what do we do?

Check to see if this is addressed in Appendix J in IRC. – Kim added third column.

Proposal 10: Part 2 Also IEBC 5-2 EEROs in COO

Chapter 10 Changer of occupancy SECTION 1011 CHANGE OF OCCUPANCY CLASSIFICATION

1011.4 Means of egress, general. Hazard categories in

regard to life safety and means of egress shall be in accordance with Table 1011.4.

TABLE 1011.4

MEANS OF EGRESS HAZARD CATEGORIES

RELATIVE HAZARD	OCCUPANCY CLASSIFICATIONS
1 (Highest Hazard)	Н
2	I-2; I-3; I-4
3	A; E; I-1; M; R-1; R-2; R-4, Condition 2
4	B; F-1; R-3; R-4, Condition 1; S-1
5	(Lowest Hazard) F-2; S-2; U

1011.4.1 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 1011.4, 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- inchthick (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 805.5.1, 805.5.2 and 805.5.3.
- 6. Existing dead-end corridors shall comply with the requirements in Section 805.6.
- An existing operable window with clear opening area not less than 4 square feet (0.38 m₂) and minimum opening height and width of 22 inches (559 mm) and of 20 inches (508 mm), respectively, complying with Section 1011.4.6 shall be accepted as an emergency escape and rescue openings.

1011.4.2 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 1011.4, 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*.

Exceptions:

- <u>1.</u> 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. An operable window complying with Section 1011.4.6 shall be acceptable as an emergency escape and rescue opening.

1011.4.3 Egress capacity. Egress capacity shall meet or exceed the occupant load as specified in the *International Building Code* for the new occupancy.

1011.4.4 Handrails. Existing stairways shall comply with the handrail requirements of Section 805.9 in the area of the *change of occupancy* classification.

1011.4.5 Guards. Existing guards shall comply with the requirements in Section 805.11 in the area of the *change of occupancy* classification.

1011.4.6 Emergency escape and rescue openings. Where a change of occupancy would require emergency escape and rescue opening in accordance with Section 1030.1, operable windows serving as the emergency escape and rescue opening shall comply with the following:

- 1. An existing operable window shall provide a minimum net clear opening of 4 square feet (0.38 m₂) with a minimum net clear opening height of 22 inches (559 mm) and a minimum net clear opening width of 20 inches (508 mm).
- 2. A replacement window where such window complies with both of the following:
 - 2.1 The replacement window meets the size requirements in Item 1.
 - 2.2 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.

Chapter 5 Prescriptive Method Section 506 Change of occupancy

506.4 Emergency escape and rescue openings. Where a change of occupancy would require emergency escape and rescue opening in accordance with Section 1030.1, operable windows serving as the emergency escape and rescue opening shall comply with the following:

- 1. An existing operable window shall provide a minimum net clear opening of 4 square feet (0.38 m₂) with a minimum net clear opening height of 22 inches (559 mm) and a minimum net clear opening width of 20 inches (508 mm).
- 2. A replacement window where such window complies with both of the following:
 - 2.1 The replacement window meets the size requirements in Item 1.
 - 2.2 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.

Reason for COO: EEROs are required in IBC Section 1030 only in R-3 and R-4 dwellings and for R-2 apartments in single exit buildings (4 units per floor, 3 stories maximum). So looking at something converting to a single family home per Table 1011.1, Section 1104.1 would only

apply if a house was made out of an F-2, S-2 or U – such as a barn to a house. Any other use being converted to a house would be under 1011.4.2 – which has no language for EEROs. There does not appear to be any justification for a moving to the same or lesser hazard to be more restrictive than what is allowed for an increased hazard.

The provisions in Section 505 and 702 say they are not applicable to COO, so it should be addressed here for any occupancy that converts to R-3, R-4 and single exit R-2. The size currently permitted under Section 1104.1 Exception 7 for existing window is maintained. The requirements for replacement windows is from current language in 505 and 702.

The same language is proposed for COO under the prescriptive method – which currently does not address EEROs at all.

Question: Doe the committee want to take on window control devices or bars over the window wells for COO? This could be as simple as a reference back to the provisions in the respective chapters for alterations.

IEBC 11-1 IEBC 301.1.1 (New), 1106

Chapter 3 Provisions for all Compliance methods Section 201 General 9-17-2018: Notes from Gary Ehlich

301.1 General. The *repair*, *alteration*, *change of occupancy*, *addition* or relocation of all *existing buildings* shall comply with Section 301.2, 301.3, or 301.4.

301.1.1 Storm shelters. Storm shelters added into existing buildings shall comply with ICC 500.

-or-

SECTION 303 STORM SHELTERS

303.1 Storm shelters. This section applies to the construction of storm shelters constructed as separate detached buildings accessory to *existing buildings* or constructed as rooms or spaces within *existing buildings* for the purpose of providing protection during storms that produce high winds, such as tornadoes and hurricanes. 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.

303.1.1 Emergency shelters. Buildings or structures that are also designated as emergency shelters for short-term use after the storm shall also comply with IBC Table 1604.5 as Risk Category IV structures of the International Building Code.

Chapter 5 Prescriptive Compliance Method Section 502 Additions

502.8 Additions to Group E facilities. For *additions* to Group E occupancies, storm shelters shall be provided in accordance with Section 1106.1.

Chapter 11 Additions

SECTION 1106 STORM SHELTERS

<u>303.2</u> <u>1106.1</u> 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 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.

<u>303.2.1</u> <u>1106.1.1</u> **Required occupant capacity.** The required occupant capacity of the storm shelter shall include all buildings on the site, and shall be the greater of the following:

- 1. The total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy.
- 2. The occupant load of any the largest indoor assembly space that is associated with 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 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 occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing storm shelters on the site.

<u>303.2.2</u> <u>1106.1.2</u> **Location.** Storm shelters shall be located within the buildings they serve, or shall be located where the maximum distance of travel from not fewer than one exterior door of each building to a door of the shelter serving that building does not exceed 1,000 feet (305 m).

303.3 Occupancy classification. The occupancy classification for storm shelters shall be determined in accordance with Section 423.3 of the International Building Code.

Reason: Where storm shelters are required in additions was added to the 2018 IEBC. Need to have a reference to ICC 500 if someone builds a storm shelter inside an existing building — either voluntarily or to meet the occupant capacity requirement or travel distances set up in 1106. This new text is not a requirement for a shelter.

Where storm shelters are required in Group E additions was added to the 2018 IEBC Section 502.8 and 1106. There need to have a reference to ICC 500 if someone builds a storm shelter inside an existing building – either voluntarily or to meet the occupant capacity requirement or travel distances set up in 1106. This new text is not a requirement for a shelter, but instead what to do if one is provided. The language is similar to Section IBC Section 423. The new Section 303.1.1 would also clarify the difference between and emergency shelter for after the storm and a storm shelter. This is consistent with IBC Section 423 and the revisions in G59-18.

Since this requirement is in the prescriptive method and the work area method, it is suggested to move all the requirements to Chapter 3 as a new section on storm shelters.

Occupancy classification was added in the IBC Section 423 by G59-18. Since the IEBC uses the IBC for occupancy classifications, it seems appropriate to make this a reference.

Question: To coordinate with G59-18, should the following also be added? Separate code change?

423.3 Occupancy classification. The occupancy classification for a storm shelter shall be determined in accordance with this section.

423.3.1 Dedicated storm shelters. A facility designed to be occupied solely as a storm shelter shall be classified as Group A-3 for the determination of requirements other than those covered in ICC 500. **Exceptions:**

1. The occupancy category for dedicated storm shelters with an occupant load of less than 50 persons as determined in accordance with ICC 500 shall be in accordance with Section 303.

2. The occupancy category for a dedicated residential storm shelter shall be the Group R occupancy served.

423.3.2 Storm shelters within host buildings. Where designated storm shelters are constructed as a room or space within a host building which will normally be occupied for other purposes, the requirements of this code for the occupancy of the building, or the individual rooms or spaces thereof, shall apply unless otherwise required by ICC 500.

Reason:

ICC 500 contains specific requirements for determining the occupancy classification of storm shelters, whether constructed as a standalone building or as a room or space inside a host building which will normally be occupied for other purposes (e.g. a multi-purpose room in a Group E school or a conference room in a Group B office building). This code change adapts the occupancy language from ICC 500 and adds it to Section 423 where it will be directly accessible to all code users.

Occupancy classifications for storm shelters are broken down into four categories:

Dedicated storm shelters: Large community storm shelters may house hundreds of occupants. Thus, the ICC 500 committee deemed it appropriate to classify these shelters as Assembly Group A-3.

Small dedicated storm shelters: Some community shelters may only serve a small number of occupants. The ICC 500 committee deemed it appropriate to permit these smaller shelters to be classified as Group B as allowed by IBC Section 303.1.1

Shelters in a host building: Storm shelters constructed within a larger building as a room or space which will be used for other purposes under normal conditions (e.g. a multi-purpose room in a Group E school or a conference room in a Group

B office building) are permitted to be classified using the occupancy category applicable to the space as it is normally used.

Residential storm shelters. Currently under ICC 500 these would be classified as Group B since they are limited to a maximum of 16 occupants, thus could use the Section 303.1.1 allowance. It is more appropriate that they be classified as Group R since that is the occupancy to which they are an accessory structure.

In addition, Sections 423.1 (General) and 423.2 (Construction) are revised to provide better scoping and charging language for storm shelters. The General paragraph is amended to highlight that Section 423 contains language requiring the installation of storm shelters in critical facilities such as fire stations, ambulance stations, and emergency operations centers (existing Section 423.3) and in Group E occupancies (existing Section 423.4). The requirement to classify storm shelters as hurricane, tornado, or both is relocated to the Construction provision, and a new paragraph is added to clarify that a storm shelter may be constructed in, or accessory to, any other buildings or structures governed by the IBC, where they would not otherwise be required, as long as the shelter complies with the appropriate requirements of the IBC and ICC 500. This is similar to language that exists in Section 901.2 for fire protection systems.

Cost impact:

9-18-2018: Add new occupancy information as an IBC reference. Separate code change since different idea. Reorganization okay. Move forward.

IEBC 10-5 IEBC 1011.1.1.1, 1011.1.1.2

Chapter 10 Change of Occupancy Section 1011 Change of Occupancy classification 1011.1 General.....

Original suggestion:

1011.1.1 Compliance with Chapter 9. The requirements of Chapter 9 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1011.1.1.1 and 1011.1.1.2.

1011.1.1 Change of occupancy classification without separation. Where a portion of an *existing building* is changed to a new occupancy classification 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,* and that portion is not separated from the remainder of the building with fire barriers <u>constructed in accordance with Section</u> <u>707 or *horizontal assemblies* constructed in accordance with Section 711.2, or both. having a fire-resistance rating as required in the *International Building Code* for the separate occupancy, the entire building shall comply with all of the requirements of Chapter 9 of this code applied throughout the building for the most restrictive occupancy classification in the building and with the requirements of this chapter.</u>

1011.1.12 Change of occupancy classification with separation. Where a portion of an *existing building* is changed to a new occupancy classification 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*, and that portion is separated from the remainder of the building with fire barriers <u>constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711.2, or both. having a fire-resistance rating as required in the *International Building Code* for the separate occupancy, that portion shall comply with all of the requirements of Chapter 9 of this code for the new occupancy classification and with the requirements of this chapter.</u>

Reason: Essentially the old definition of "fire barriers" back in the 2003 edition included walls and floor/ceilings whereas now it is separated into fire barriers and horizontal assemblies. This change did not happen in the IEBC in 2006 to match these definitions. Thinking this needs to be addressed through a code change proposal at this point but I think the intent has always been there. I still struggle with the fact that some occupancies simply will not be required to have any separation but will be considered separate. Was this concept originally based upon the old separations that wrapped in fire area separations?

Revised reason from work group:

Reason: This proposal provides a pointer for the requirements for fire barriers and also adds horizontal assemblies to the design options simplifying use changes in multi-story buildings with properly constructed horizontal separation

Cost impact: The proposal provides possible reductions in costs allowing additional design options for existing building without requiring fire sprinkler installation.

Option from Sarah Rice:

1011.1.1 Compliance with Chapter 9. The requirements of Chapter 9 shall be applicable throughout the building for the new occupancy classification based on the separation conditions set forth in Sections 1011.1.1.1 and 1011.1.1.2.

1011.1.1.1 Change of occupancy classification without separation. Where a portion of an *existing building* is changed to a new occupancy classification 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*, and that portion is not separated from the remainder of the building with fire barriers having a fire-resistance rating as required in the *International Building Code* for the separate occupancy, the entire building shall comply with all of the requirements of Chapter 9 of this code applied throughout the building for the most restrictive occupancy classification in the building and with the requirements of this chapter.

Exceptions:

- 1. Only the portion of a building that has undergone a change of occupancy shall comply with the requirements of Chapter 9 based on the new occupancy classification, when the portion is separated from the remainder of the building with fire barriers constructed in accordance with Section 707 of the International Building Code or horizontal assemblies constructed in accordance with Section 711 of the International Building Code, or both, having a fire-resistance rating as required by Table 508.4 of the International Building Code, but not less than 1/2 hour.
- 2. Only the portion of a space that has undergone a change of occupancy where there is a different fire protection system threshold requirement in Chapter 9 shall comply with the requirements of Chapter 9 based on the new occupancy classification, when the space is separated from the remainder of the building with fire barriers constructed in accordance with Section 707 of the International Building Code or horizontal assemblies constructed in accordance with Section 711 of the International Building Code, or both, having a fire-resistance rating as required by Table 508.4 of the International Building Code, but not less than 1/2 hour.

1011.1.1.2 Change of occupancy classification with separation. Where a portion of an *existing building* is changed to a new occupancy classification 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, and that portion is separated from the remainder of the building with fire barriers having a fire resistance rating as required in the International Building Code for the separate occupancy, that portion shall comply with all of the requirements of Chapter 9 of this code for the new occupancy classification and with the requirements of this chapter.

Reason: Essentially the old definition of "fire barriers" back in the 2003 edition included walls and floor/ceilings whereas now it is separated into fire barriers and horizontal assemblies. This change did not happen in the IEBC in 2006 to match these definitions. Thinking this needs to be addressed through a code change proposal at this point but I think the intent has always been there. I still struggle with the fact that some occupancies simply will not be required to have any separation but will be considered separate. Was this concept originally based upon the old separations that wrapped in fire area separations?

Discussion: If you TRULY read what is 1011.1.1.1 and 1011.1.1.2 you will see that the intent can be accomplished in a MUCH simpler way. The general requirement in 1011 is that if there is a change of occupancy, then compliance with Chapter 9 is required BUT the exception to this requirement is when the area undergoing a change of occupancy is separated from the remainder of the building by fire rated construction.

So why don't we just say that?? See below.

And I built off Mike's revision by adding a reference to Table 508.4 of the IBC and a not less than 1/2-hour requirement as a wall is not a fire barrier unless it has some kind of fire rating.

Cost impact:

IEBC 13-5 Scope of Performance Method

Option 1

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 **5** or 6 through 12, except where compliance with other provisions of this code is specifically required in this chapter.

Option 2

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 5_{-6} through 12, except where compliance with other provisions of this code is specifically required in this chapter.

Reason: This compliance method should not require compliance with both the prescriptive and work area methods. As currently written, because only Chapters 6 through 12 are listed, it could be construed that compliance with Chapter 5, Prescriptive Compliance Method is required. By adding the Chapter 5 reference, it clarifies the intent to absolve projects that are properly design in accordance with Chapter 13 from compliance with both the Prescriptive and Work Area methods.

Cost impact: No cost impact as this is merely further clarification that this method would not require further compliance with the prescriptive method, if compliance with the performance method is established.

9-20-2018: New