

IBC — Egress



2021 GROUP A PUBLIC COMMENT AGENDA

SEPTEMBER 21 - 28, 2021
DAVID L. LAWRENCE CONVENTION CENTER
PITTSBURGH, PA

2021 Public Comment Agenda

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E8-21

Proposed Change as Submitted

Proponents: Stephen Thomas, Colorado Code Consulting, a Shums Coda Assoc Company, representing Colorado Chapter ICC (sthomas@coloradocode.net); Timothy Pate, representing Colorado Chapter Code Change Committee (tpate@broomfield.org)

2021 International Building Code

Revise as follows:

TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

Portions of table not shown remain unchanged.

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR ^a
Business areas	150 gross
<u>Conference Rooms</u>	<u>30 gross</u>
Concentrated business use areas	See Section 1004.8

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m².

- a. Floor area in square feet per occupant.

Reason: Calculating the occupant load has always been an issue for design professionals and code officials. There is a theory about non-simultaneous use of the space where if employees are in the conference room, they are not in their office. However, the discussion centers around the fact that people from outside the business may be coming into the facility. This proposal addresses this issue by increasing the occupant load factor to the same value as the concentrated business factor. It is very common for conference rooms to have large tables in the middle of the room that takes up floor area that cannot be occupied. By changing the occupant load factor, we can address this issue as well. This proposal will also assist in determining the number of exits or exit access doors from a tenant space and provide a more reasonable approach to tenant space design.

Cost Impact: The code change proposal will decrease the cost of construction

The reduction in the occupant load in conference rooms will potentially reduce the number of exits provided in a tenant space.

E8-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because the committee felt that there should be a maximum size threshold for these conference rooms for when the 15 sq.ft. per person should be applied versus the 30 sq.ft. per person proposed. The collaboration areas in E7-21 and the conference rooms in E8-21 should be addressed together. (Vote: 14-0)

E8-21

Individual Consideration Agenda

Public Comment 1:

IBC: TABLE 1004.5 (IFC:[BE] TABLE 1004.5)

Proponents: Stephen Thomas, representing Colorado Chapter ICC (stthomas@coloradocode.net) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR^a
Business areas	150 gross
Conference rooms <u>with an area of 750 square feet or less</u>	30 gross <u>net</u>
<u>Conference rooms with an area of greater than 750 square feet</u>	<u>See Assembly</u>
Concentrated business use areas	See Section 1004.8

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m².

- a. Floor area in square feet per occupant.

Commenter's Reason: The committee felt that the proposal was too broad to include any conference room. They felt that a limitation in area should be included in the requirement. We have selected 750 square feet because that is the area in which a conference room would have the same occupancy as the rest of the business area. Many jurisdictions allow this reduced occupant load now. This would just codify the language and provide a more reasonable number of occupants in the space. Once the area exceeded 750 square feet, the 15 square feet occupant load factor for an assembly function would be used as currently required and the space classified as a Group A-3 Occupancy. We believe that this is a reasonable approach to determine the occupant load in small conference rooms within office spaces.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction. The cost of construction could potentially be reduced due to the lower occupant load that will affect the number of exits and plumbing fixtures.

Public Comment# 2410

E9-21

Proposed Change as Submitted

Proponents: Daniel Nichols, representing Metropolitan Transportation Authority, Construction and Development (dnichols@mnr.org)

2021 International Building Code

Revise as follows:

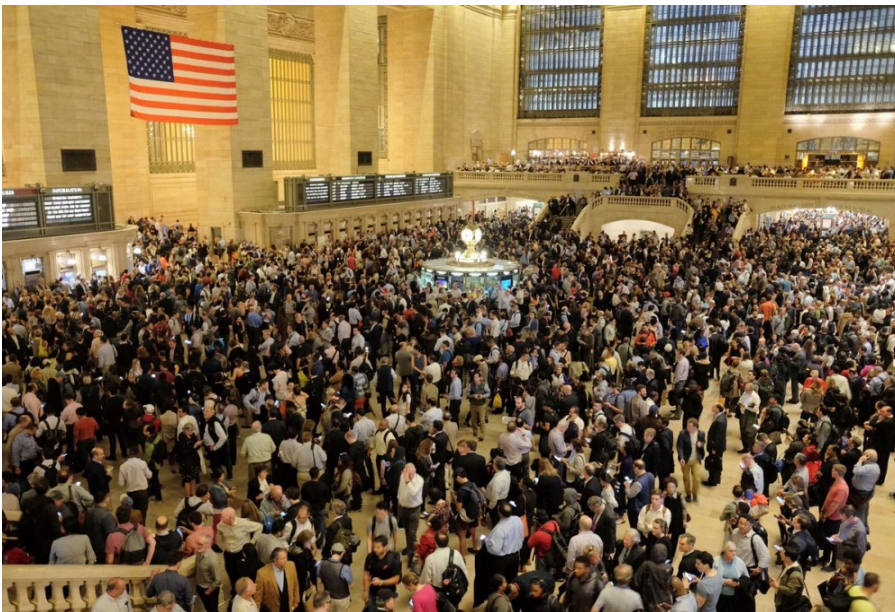
1004.5.1 Increased occupant load. The *occupant load* permitted in any building, or portion thereof, is permitted to be increased from that number established for the occupancies in Table 1004.5, provided that all other requirements of the code are met based on such modified number and the *occupant load* does not exceed one occupant per ~~5.7~~ square feet (~~0.47~~ ~~0.65~~ m^2) of occupiable floor space. Where required by the *building official*, an *approved aisle*, seating or fixed equipment diagram substantiating any increase in *occupant load* shall be submitted. Where required by the *building official*, such diagram shall be posted.

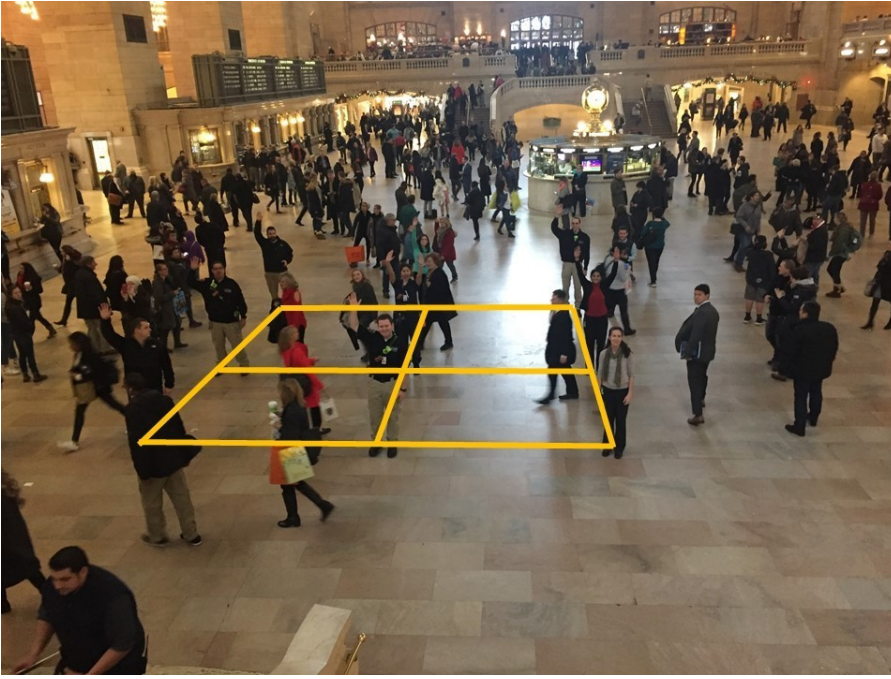
Reason: 1004.5.1 permits the building official to accept an occupant load higher than Table 1004.5 permits, but not any higher than 7sf/person. This does create an issue for the building official that wants to utilize 5sf/person for concentrated standing spaces similar to a concentrated assembly standing area but is closely matches another category that the designer has designed to.

What this proposal is changing is to allow the building official the full range of occupant load values within the Table to be applied when information is presented to them. As an example, an airport concourse is 100 SF/person and is a direct application to designer for this specific use. However, the sole use of 100 SF/person is not appropriate in times of service delays.

Examples of service delay situations in rail stations is provided as a comparison to this concept. The picture with the grid shows 10' x 10' boxes, the requirement for an airport concourse. The other photo shows how 100SF/person is not indicative of a service delay in a similar arrangement by comparing the two photos. Please compare these findings with your experiences with delays at ATL, ORD, JFK, or any other main airport (LGA is only at 100 SF/person when it's closed).

What is important is that the proper determination of occupant loading is not only for the consideration of new buildings, but the capacity when the means of egress is being altered or rehabilitated. By allowing the code official to have the full range, egress can be sized for exiting in all situations.





Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a design criteria proposal.

E9-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because the committee felt that this increase allowance for the occupant load would allow for so many people to be in the space that there would not be enough room to move for smooth evacuation. This is too tight for all assembly spaces. It was suggested that a public comment could limit this to transportation terminals. (Vote: 11-3)

E9-21

Individual Consideration Agenda

Public Comment 1:

Proponents: Daniel Nichols, representing Metropolitan Transportation Authority, Construction and Development (dnichols@mnr.org) requests As Submitted

Commenter's Reason: We ask for the membership's support of our proposal E9. During the deliberation of the proposal, testers stated that code officials should not have the ability to "overcrowd" the building by permitting such a high occupant load. Our response continues to be that the purpose of this section is to adequately determine the occupant load that could be in the building AND ensure that the buildings features can handle it. Currently, a code official is permitted to lower the occupant load down to 7 square foot per person based on specifics of the use of the building. This would include lowering the ratio for casino floors with concert venues, establishing pre-function area occupant loading, and special event spaces on merchantile and business occupancies. In lowering the ratio- the IBC then requires the increase in occupant load calculation for not only exits, but plumbing fixtures, accessible features, and triggers for emergency evacuation and fire safety plans. If you look at the application of 7 square foot per person, that is for chairs only which doesn't address standing spaces. The prohibition for the fire code official not to be able to acknowledge known crowded standing spaces from 7 to 5 persons to square foot allows a building to be constructed or repurposed with 29% LESS exit capacity and potentially not triggering egress plans, exiting requirements for over 300 persons, and similar provisions. The commentary supports this change by acknowledging that there can be standing spaces, but are usually small in nature and the ratio balances out throughout the space. We do not support the idea that occupant loading is balanced out or is usually limited to a specific area. This needs to be a tool that code officials can have to adequately provide exiting, services, and accessibility to actual number of persons within a building or space.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. There will be no increase in construction since this adequately acknowledges the actual number of occupants.

Public Comment# 2883

Proposed Change as Submitted

Proponents: Jeff Perras, representing Code Red Consultants, LLC (jeffp@crcfire.com)

2021 International Building Code

Revise as follows:

1006.2.1 Egress based on occupant load and common path of egress travel distance. Two *exits* or *exit access doorways* from any space shall be provided where the design *occupant load* or the *common path of egress* travel distance exceeds the values *listed* in Table 1006.2.1. The cumulative *occupant load* from adjacent rooms, areas or spaces shall be determined in accordance with Section 1004.2.

Exceptions:

1. The number of *exits* from foyers, lobbies, vestibules or similar spaces need not be based on cumulative *occupant loads* for areas discharging through such spaces, but the capacity of the *exits* from such spaces shall be based on applicable cumulative *occupant loads*. The maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.2.1 for each occupancy or function does not exceed one.
2. *Care suites* in Group I-2 occupancies complying with Section 407.4.
3. Unoccupied mechanical rooms and *penthouses* are not required to comply with the common path of egress travel distance measurement.

1004.4 Multiple ~~occupancies~~ functions. Where a building contains two or more ~~occupancies~~ functions, the *means of egress* requirements shall apply to each portion of the building based on the ~~occupancy~~ function of that space. Where two or more ~~occupancies~~ functions utilize portions of the same *means of egress* system, those egress components shall meet the more stringent requirements of all ~~occupancies~~ functions that are served.

1004.5.1 Increased occupant load. The *occupant load* permitted in any building, or portion thereof, is permitted to be increased from that number established for the ~~occupancies~~ functions in Table 1004.5, provided that all other requirements of the code are met based on such modified number and the *occupant load* does not exceed one occupant per 7 square feet (0.65 m²) of occupiable floor space. Where required by the *building official*, an *approved aisle*, seating or fixed equipment diagram substantiating any increase in *occupant load* shall be submitted. Where required by the *building official*, such diagram shall be posted.

1004.8 Concentrated business use areas. The *occupant load* factor for concentrated business use shall be applied to telephone call centers, trading floors, electronic data processing centers and similar business use areas with a higher density of occupants than would normally be expected in a typical business ~~occupancy~~ environment. Where approved by the *building official*, the *occupant load* for concentrated business use areas shall be the actual *occupant load*, but not less than one occupant per 50 square feet (4.65 m²) of gross occupiable floor space.

1004.9 Posting of occupant load. Every room or space that is an assembly ~~occupancy~~ function shall have the *occupant load* of the room or space posted in a conspicuous place, near the main *exit* or *exit access doorway* from the room or space, for the intended configurations. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or the owner's authorized agent.

TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY FUNCTION	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		Without Sprinkler System (feet)		With Sprinkler System (feet)
		Occupant Load		
		OL ≤ 30	OL > 30	
A ^c , E, M	49	75	75	75 ^a
B	49	100	75	100 ^a
F	49	75	75	100 ^a
H-1, H-2, H-3	3	NP	NP	25 ^b
H-4, H-5	10	NP	NP	75 ^b
I-1, I-2 ^d , I-4	10	NP	NP	75 ^a
I-3	10	NP	NP	100 ^a
R-1	10	NP	NP	75 ^a
R-2	20	NP	NP	125 ^a
R-3 ^e	20	NP	NP	125 ^{a, g}
R-4 ^e	20	NP	NP	125 ^{a, g}
S ^f	29	100	75	100 ^a
U	49	100	75	75 ^a

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

- a. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
- b. Group H occupancies equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.5.
- c. For a room or space used for assembly purposes having *fixed seating*, see Section 1030.8.
- d. For the travel distance limitations in Group I-2, see Section 407.4.
- e. The *common path of egress travel* distance shall only apply in a Group R-3 occupancy located in a mixed occupancy building.
- f. The length of *common path of egress travel* distance in a Group S-2 *open parking garage* shall be not more than 100 feet.
- g. For the travel distance limitations in Groups R-3 and R-4 equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.3, see Section 1006.2.2.6.

Reason: There are many times where areas of a building contain multiple occupancies or functions, and it is not clear in the code how to apply this section. A common example is a study/lounge smaller than 750 square feet located at the end of a corridor in a dormitory or apartment building. The study/lounge is required to be calculated using 15 net square feet per person for an assembly space with movable tables and chairs; however, it is classified as a Group R occupancy due to its size, limiting it to 300 square feet in areas with only one exit. If a sleeping or dwelling unit also opens into this area, it is likely the only option is to locate the stair at the end of the corridor.

This proposed code change incorporates the sum of the ratios criteria that is used by multiple sections of the code, including Section 1006.3.2.1 for determining stories with a single exit.

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

This code change impacts the potential location of the required exit and will not impact the cost of construction.

E13-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved. The committee agreed that the occupant load is based the function of the space, however,

Section 1004.9 should remain occupancy. The proposal to Section 1006.2.2 is a complex ratio calculation that is not needed for most spaces. If this is needed it should be in the main paragraph, not in an exception. (Vote: 14-0)

E13-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1006.2.1 (IFC:[BE] 1006.2.1)

Proponents: Jeff Perras, representing Code Red Consultants, LLC (jeffp@crcfire.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

1006.2.1 Egress based on occupant load and common path of egress travel distance . Two *exits* or *exit access doorways* from any space shall be provided where the design *occupant load* or the *common path of egress* travel distance exceeds the values *listed* in Table 1006.2.1. The cumulative *occupant load* from adjacent rooms, areas or spaces shall be determined in accordance with Section 1004.2. The maximum number of occupants served by a single exit shall be such that the sum of the ratios of the calculated number of occupants of the space divided by the allowable number of occupants indicated in Table 1006.2.1 for each occupancy or function does not exceed one.

Exceptions:

1. The number of *exits* from foyers, lobbies, vestibules or similar spaces need not be based on cumulative *occupant loads* for areas discharging through such spaces, but the capacity of the *exits* from such spaces shall be based on applicable cumulative *occupant loads*.
2. *Care suites* in Group I-2 occupancies complying with Section 407.4.
3. Unoccupied mechanical rooms and *penthouses* are not required to comply with the common path of egress travel distance measurement.

Commenter's Reason: This modification relocates the proposed sum of the ratios calculation to the main section rather than the exception. This intent of the code change is to address situations where multiple occupancies or functions are served by a single means of egress, which is not currently addressed in the code. The other changes that were incorporated complicated the intent of the proposed change and have been removed. One comment received during the hearing was that the proposed change is trying to solve an issue that doesn't exist. Not all spaces with one means of egress are limited to a single occupancy/function. Examples include office areas with storage rooms, lounges in residential buildings, storage areas or lounges in hospitals, etc. How to treat this condition is enforced differently by various jurisdictions and should really be addressed by the code.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This code change impacts the potential location of the required exit and will not impact the cost of construction.

Public Comment# 2842

E14-21

Proposed Change as Submitted

Proponents: Timothy Stacy, representing Southern Oregon Fire Code Officials

2021 International Building Code

Revise as follows:

TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		Without Sprinkler System (feet)		With Sprinkler System (feet)
		Occupant Load		
		OL ≤ 30	OL > 30	
A ^c , E, M ^h	49	75	75	75 ^a
B	49	100	75	100 ^a
F	49	75	75	100 ^a
H-1, H-2, H-3	3	NP	NP	25 ^b
H-4, H-5	10	NP	NP	75 ^b
I-1, I-2 ^d , I-4	10	NP	NP	75 ^a
I-3	10	NP	NP	100 ^a
R-1	10	NP	NP	75 ^a
R-2	20	NP	NP	125 ^a
R-3 ^e	20	NP	NP	125 ^{a, g}
R-4 ^e	20	NP	NP	125 ^{a, g}
S ^f	29	100	75	100 ^a
U	49	100	75	75 ^a

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

- a. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
- b. Group H occupancies equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.5.
- c. For a room or space used for assembly purposes ~~having fixed seating~~, see Section 1030.8.
- d. For the travel distance limitations in Group I-2, see Section 407.4.
- e. The *common path of egress travel* distance shall only apply in a Group R-3 occupancy located in a mixed occupancy building.
- f. The length of *common path of egress travel* distance in a Group S-2 *open parking garage* shall be not more than 100 feet.
- g. For the travel distance limitations in Groups R-3 and R-4 equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.3, see Section 1006.2.2.6
- h. The *common path of egress travel* in the *merchandise pad* shall comply with Section 1018.4.

Reason: This proposal is clarifying existing intent in an effort to make the table more useful. Footnote c: remove reference to fixed seating to clarify that section 1030.8 applies to more than fixed seating. This provides consistency with Section 1030.9 which specifically includes tables, displays, similar fixtures or equipment in addition to seats.

Footnote h: Add footnote to clarify that the common path limit in mercantile occupancies is reduced to 30 ft for merchandise pads per Section 1018.4. Similar references are provided such as for assembly uses, I-2, etc.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarifying code proposal.

Staff note: This proposal's revision to Table 1006.2.1 footnote c addresses requirements in a different or contradicting manner to those found in Code Change E108-21 to Section 1030.8. The committee is urged to make their intentions clear with their actions on these proposals.

E14-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because this issue need to be addressed in both Table 1006.2.1 note c and Section 1030.8. If 'fixed seating' was removed here was concern the common path of travel in Section 1030.8 would over ride the 75 foot common path of travel allowance in this table for assembly spaces. (Vote: 14-0)

Staff Analysis: This proposal's revision to Table 1006.2.1 footnote c addresses requirements in a different or contradicting manner to those found in Code Change E108-21 to Section 1030.8. The committee is urged to make their intentions clear with their actions on these proposals.

E14-21

Individual Consideration Agenda

Public Comment 1:

IBC: TABLE 1006.2.1 (IFC:[BE]TABLE 1006.2.1)

Proponents: Tanner Fairrington, representing Medford Fire-Rescue (tfairrington@yahoo.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		Without Sprinkler System (feet)		With Sprinkler System (feet)
		Occupant Load		
		OL ≤ 30	OL > 30	
A ^c , E, M	49	75	75	75 ^a
B	49	100	75	100 ^a
F	49	75	75	100 ^a
H-1, H-2, H-3	3	NP	NP	25 ^b
H-4, H-5	10	NP	NP	75 ^b
I-1, I-2 ^d , I-4	10	NP	NP	75 ^a
I-3	10	NP	NP	100 ^a
R-1	10	NP	NP	75 ^a
R-2	20	NP	NP	125 ^a
R-3 ^e	20	NP	NP	125 ^{a, g}
R-4 ^e	20	NP	NP	125 ^{a, g}
S ^f	29	100	75	100 ^a
U	49	100	75	75 ^a

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

- a. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
- b. Group H occupancies equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.5.
- c. For a room or space used for assembly purposes having fixed seating, see Section 1030.8.
- d. For the travel distance limitations in Group I-2, see Section 407.4.
- e. The *common path of egress travel* distance shall only apply in a Group R-3 occupancy located in a mixed occupancy building.
- f. The length of *common path of egress travel* distance in a Group S-2 *open parking garage* shall be not more than 100 feet.
- g. For the travel distance limitations in Groups R-3 and R-4 equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.3, see Section 1006.2.2.6.
- h. The *common path of egress travel* in the *merchandise pad* shall comply with Section 1018.4.

Commenter's Reason: This public comment addresses concerns raised in testimony and by the Committee related to the proposal. The public comment returns footnote "c" to model code language to include "having fixed seating" language as proposed in E14-21 and to be consistent with E108-21.

This public comment retains footnote "h" which provides a reference to a specific common path limit of 30 ft. for merchandise pads in mercantile occupancies. The intent of adding this footnote is to provide the user with a convenient reference, similar to the other references provided for assembly uses, I-2, etc.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The proposal and public comment will likely not affect the cost of construction. However, adding this convenient reference could help avoid costs associated with changes are required during construction to meet this requirement.

Public Comment# 2644

Proposed Change as Submitted

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

2021 International Building Code

Revise as follows:

1006.2.2.2 Refrigeration machinery rooms. Machinery rooms larger than 1,000 square feet (93 m²) shall have not less than two *exits* or exit access doorways. Where two *exit access doorways* are required, one such doorway is permitted to be served by a fixed ladder or an *alternating tread device*. *Exit access doorways* shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room. All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. ~~An increase in exit access travel distance is permitted in accordance with Section 1017.1.~~

Exit and *exit access doorways* shall swing in the direction of egress travel and shall be equipped with *panic hardware*, regardless of the *occupant load* served. *Exit* and *exit access doorways* shall be tight fitting and *self-closing*.

1006.2.2.3 Refrigerated rooms or spaces.

Rooms or spaces having a floor area larger than 1,000 square feet (93 m²), containing a refrigerant evaporator and maintained at a temperature below 68°F (20°C), shall have access to not less than two *exits* or *exit access doorways*.

Exit access travel distance shall be determined as specified in Section 1017.1. ~~1017.1 but all~~ All portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway* leading to a nonrefrigerated area where such rooms are not protected by an *approved automatic sprinkler system*. ~~Egress is allowed through adjoining refrigerated rooms or spaces.~~

Exception: Where using refrigerants in quantities limited to the amounts based on the volume set forth in the *International Mechanical Code*.
Egress is allowed through adjoining refrigerated rooms or spaces.

Reason: This proposal is designed to correlate and clarify the egress requirements for refrigerated rooms and associated machinery rooms. In Section 1006.2.2.2, the second paragraph refers to a travel distance increase for refrigeration machinery rooms that is allowed in Section 1017.1. However, Section 1017.1 does not provide any increase in exit access travel distance for refrigeration machinery rooms; and in fact, Footnote a refers back to Section 1006.2.2.2 for distance limitations in refrigeration machinery rooms. This creates a circular reference and therefore this sentence is proposed to be deleted to eliminate the confusion.

In Section 1006.2.2.3, the second paragraph contains a requirement for nonsprinklered refrigerated rooms or spaces. This paragraph is revised to clarify that there are separate egress requirements.

- Exit access travel distance which is limited by Table 1017.1
- The travel distance within a nonsprinklered refrigerated room, which is limited to 150'

Additionally, language is added to clarify that the travel distance of 150' is to reach an area outside of the refrigerated portion of the building.

The last sentence is moved to after the exception so it is a separate paragraph since it does not affect the exit access travel distance. This clarifies that the egress path can pass through intervening refrigerated rooms.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This revision resolves correlation issues and clarifies the application of the requirements

E15-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved based on proponent's request. There is a problem with the wording in Section 1006.2.2.3.
(Vote: 14-0)

E15-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1006.2.2.2 (IFC:[BE] 1006.2.2.2)

Proponents: Jeffrey Shapiro, representing IIAR (jeff.shapiro@intlcodeconsultants.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

1006.2.2.2 Refrigeration machinery rooms . Machinery rooms larger than 1,000 square feet (93 m²) shall have not less than two *exits* or exit access doorways. Where two *exit access doorways* are required, one such doorway is permitted to be served by a fixed ladder or an *alternating tread device*. *Exit access doorways* shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room. Exit access travel distance shall be determined as specified in Section 1017.1, but all portions of a refrigeration machinery room shall be within 150 feet (45 720 mm) of an exit or exit access doorway where such rooms are not protected by an approved automatic sprinkler system. Egress is allowed through adjoining refrigeration machinery rooms or adjoining refrigerated rooms or spaces.
~~All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorway. An increase in exit access travel distance is permitted in accordance with Section 1017.1.~~

Exit and exit access doorways shall swing in the direction of egress travel and shall be equipped with *panic hardware*, regardless of the *occupant load* served. *Exit and exit access doorways* shall be tight fitting and *self-closing*.

Commenter's Reason: The proponent of the original proposal correctly identified an issue with the circular reference in Section 1006.2.2.2, but a better fix is simply using identical text in Section 1006.2.2.2 and 1006.2.2.3, which does not have the same problem. The intent of both sections, which was clearly conveyed in the 2000 IBC and diminished in later editions as unrelated changes were made, is to restrict travel distance to 150 feet when sprinklers are not provided and to allow the occupancy classification associated travel distance when sprinklers are provided. The unsprinklered condition is more restrictive than the general occupancy-related travel distance limit for unsprinklered occupancies in 1017.1. Hence the inclusion of special provisions in these sections, but only for unsprinklered conditions.

The suggested changes to 1006.2.2.3 were determined to be unnecessary. Any exit or exit access doorway will ultimately lead to a nonrefrigerated area, so adding that text accomplished nothing. And, moving the last sentence to after the exception wasn't necessary because egress is technically allowed through refrigerated rooms or spaces even if that text weren't present. There is nothing in the code that otherwise prohibits it.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction
Editorial clarification of existing requirements.

Public Comment# 2978

Proposed Change as Submitted

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

2021 International Building Code

Revise as follows:

1006.3.4 Single exits. A single *exit* or access to a single *exit* shall be permitted from any *story* or occupied 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 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
3. Elevator lobbies shall be permitted to have one exit in accordance with Section 3006.4.
- ~~4.3.~~ Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
- ~~5.4.~~ Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
- ~~6.5.~~ Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
 - ~~6.1.5.1.~~ The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
 - ~~6.2.5.2.~~ Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

3006.4 Means of egress. Elevator lobbies shall ~~be provided with not less than one means of egress complying with Chapter 10 and other provisions in this code~~ have direct access from the elevator lobby to an enclosure for an interior exit stairway or ramp. Egress through an enclosed elevator lobby shall be permitted in accordance with Item 1 of Section 1016.2.

Exception: Access to an interior exit stairway or ramp shall be permitted to be through a protected path of travel enclosed with a smoke barrier having a fire-resistance rating of not less than 1 hour.

Reason: This proposal is intended to be a clarification of current exit requirements for secure elevator lobbies. The allowance for one exit from an elevator lobby is buried in Chapter 30 so it is often missed. The current language in Section 3006.4 can appear to be a conflict with Section 1006.3. The original intent of the allowance for one exit from an elevator lobby is to address secure lobby situations where the 2nd stairway is through a tenant space. The language in the exception is using the language for fire service access elevators in Section 3007 so that access to the stairway can be from the lobby to the exit stairway via a protected corridor.

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 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 BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification of requirements, not a change.

E22-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because the proposed language could be read to apply to all lobbies of any size - including general lobbies on the first floor. Some members felt the current language was requiring access to all the exits on the floor from all elevator lobbies, so this is not a clarification. The exception requires a rated corridor even in a sprinklered building - this is an unnecessary expenses (Vote: 13-1)

Individual Consideration Agenda

Public Comment 1:

IBC: 3006.4

Proponents: Mike Nugent, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Further modify as follows:

2021 International Building Code

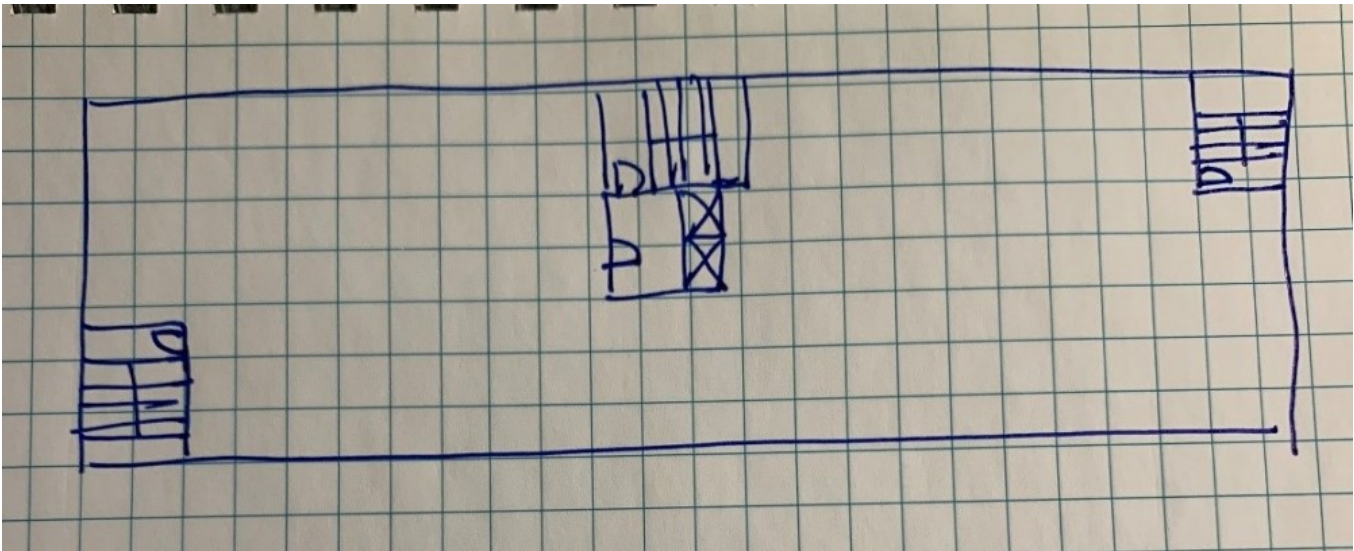
3006.4 Means of egress . Elevator lobbies above and below a level of exit discharge shall have direct access from the elevator lobby to an enclosure for an interior exit stairway or ramp. Egress through an enclosed elevator lobby shall be permitted in accordance with Item 1 of Section 1016.2.

Exception: Access to an interior exit stairway or ramp shall be permitted to be through a protected path of travel enclosed with a smoke barrier having a fire-resistance rating of not less than 1 hour.

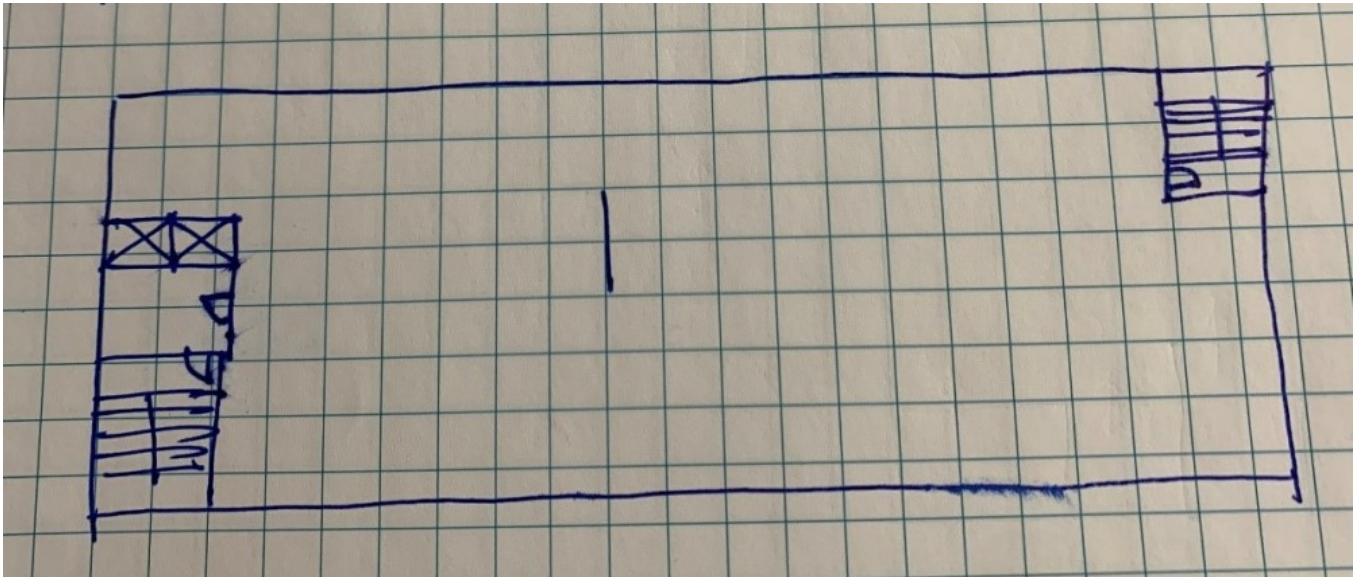
Commenter's Reason: The intent of this proposal is to provide a balance between security for a tenant and exiting from the elevator lobby. Another option for elevator lobby egress was approved in E56-21.

There was some comments during the testimony about the limits of what could be in the elevator lobby. The modification is to address those concerns. This will eliminate someone thinking they can use this exception for the first floor lobbies that can include an elevator. Tenant spaces would still need access to all exits on the floor in accordance with Chapter 10.

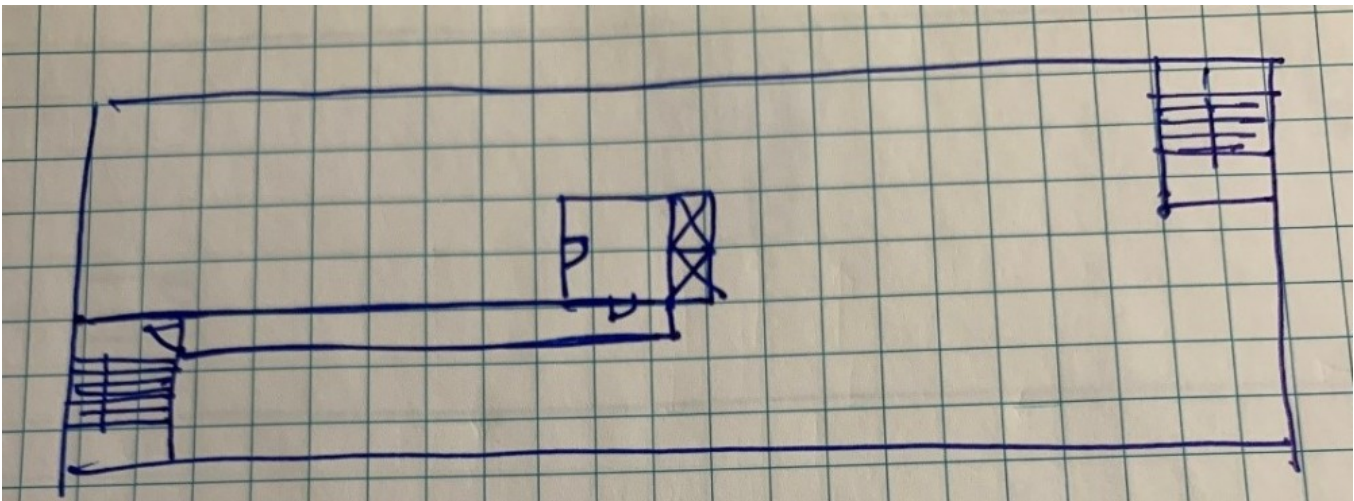
The current text only requires one exit from the elevator lobby, not access to all the exits on the floor. This is to address the very limited chance that someone could get into the elevator lobby after business hours or for a secure access tenant space and the elevators are not available to leave. The following are three examples of how Section 3006.4 could be applied for single tenant floors.



Example 1 is a three exit building with direct access from the elevator lobby to a stairway.



Example 2 is a two exit building with direct access from the elevator lobby to a stairway.



Example 3 is a two exit building with the option of providing a protected corridor, which is currently used for access to a stairway for the fire service access elevator.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This is a clarification of requirements, not a change.

Public Comment# 2577

E23-21

Proposed Change as Submitted

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

2021 International Building Code

1006.3.4 Single exits. A single *exit* or access to a single *exit* shall be permitted from any *story* or occupied 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 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
 - 5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
 - 5.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

Revise as follows:

TABLE 1006.3.4(1) STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES^a

STORY	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane	R-2 ^{a,b} <u>consisting of dwelling units</u>	4 dwelling units	125 feet
	<u>R-2 consisting of sleeping units</u>	<u>20 occupants per story</u>	<u>125 feet</u>
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 throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.
- ~~b. This table is used for R-2 occupancies consisting of dwelling units. For R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).~~

TABLE 1006.3.4(2) STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane	A, B ^{ab} , E, F ^{ab} , M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R- 2, 3, 4	10	75
	S ^{a, b, d}	29	75
Second story above grade plane	B, F, M, S ^{bd}	29	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.~~ Buildings classified as Group R-2 equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with *emergency escape and rescue openings* in accordance with Section 1031.
- ~~b. a.~~ Group B, F and S occupancies in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 shall have a maximum *exit access* travel distance of 100 feet.
- ~~c.~~ This table is used for R-2 occupancies consisting of *sleeping units*. For R-2 occupancies consisting of *dwelling units*, use Table 1006.3.4(1).
- ~~d. b.~~ The length of *exit access* travel distance in a Group S-2 *open parking garage* shall be not more than 100 feet.

1031.2 Where required. In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

- Group R-2 occupancies located in stories with only one *exit* or *access* to only one *exit* as permitted by ~~Tables~~ Table 1006.3.4(1) ~~and 1006.3.4(2)~~.
- Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens to a *public way*.

Exceptions:

- Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
- Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, court or exterior egress balcony that opens to a *public way*.
- Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.
- Storm shelters are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
- Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the basement has one of the following:
 - One *means of egress* and one *emergency escape and rescue opening*.
 - Two *means of egress*.

Reason: The purpose of this code change is to coordinate and consolidate requirements for R-2 units in Tables 1006.2.1 (single exit space), 1006.3.4(1) and 1006.3.4(2) (single exit buildings).

Proposal E17-15 increased the maximum occupant load for R-2 Occupancies from 10 to 20 occupants for single exit spaces stating that it's appropriate since Group R-2 occupancies require sprinkler protection per Section 903.3.1.1 or 903.3.1.2. and that the exit access travel distance is 125' in both Table 1006.2.1 and 1006.3.4(1).

There is no logic for a unit on the 1st floor of single exit building to have a lower occupant load or a shorter travel distance. In addition, if 4 single exit dwelling units are permitted on the 2nd and 3rd floor of a Group R-2 building, why is a single exit dwelling not permitted at the 2nd floor of a mixed-use building? Please note that emergency escape and rescue openings would be required in the single exit building. The change to 1031.2 is editorial to recognize that R-2 is only in one table.

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 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 BCAC.

Cost Impact: The code change proposal will decrease the cost of construction

This will only affect dwelling units on the basement, 1st or 2nd floor of a mixed-use building. This will most likely be no change in units less than 2,000 sq.ft. This will allow for a single exit in some apartments between 2,000 and 4,000 sq.ft., provided they can meet the exit access travel distance.

E23-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposals was disapproved because the current tables are clear. Adding "per story" in the third column would limit this to each story in stead of allowing groups of 20 occupants in a row. (Vote: 13-1)

E23-21

Individual Consideration Agenda

Public Comment 1:

IBC: TABLE 1006.3.4(1) [IFC: [BE] TABLE 1006.3.4(1)]

Proponents: Mike Nugent, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

TABLE 1006.3.4(1) STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES^a

STORY	OCCUPANCY	MAXIMUM NUMBER	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane	R-2consisting of dwelling units	4 dwelling units	125 feet
	R-2 consisting of sleeping units	20 occupants per story	125 feet
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 throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

Commenter's Reason: The original intent of the proposed change during the Committee Action Hearings was to consolidate all of the Group R-2 occupancies into one table for stories with one exit or access to one exit. Because they were divided into two separate tables under Section 1006.3.4, it made practical sense to combine all references to Group R-2's into one table (Table 1006.3.4(1)), while dedicating the other occupancies into the second table (Table 1006.3.4(2)) to minimize any potential confusion.

The occupant load was revised to remove "per story". Although this was added for clarity, the Committee felt there was issue in that it would increase the access travel distance. This, too, has been revised to address that issue.

The revisions stated in this public comment are editorial in nature and still maintain the original intent of the proposed change, which is to consolidate all of the Group R-2 occupancies into one table.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction

This will only affect dwelling units on the basement, 1st or 2nd floor of a mixed-use building. This will most likely be no change in units less than 2,000 sq.ft. This will allow for a single exit in some apartments between 2,000 and 4,000 sq.ft., provided they can meet the exit access travel distance.

Public Comment# 2584

Proposed Change as Submitted

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

2021 International Building Code

SECTION 1008 MEANS OF EGRESS ILLUMINATION

Revise as follows:

1008.1 Means of egress illumination. Illumination shall be provided in the *means of egress* in accordance with Section 1008.2. ~~Under emergency power.~~ In the event of power supply failure, *means of egress* illumination shall comply with Section 1008.3.

1008.2 Illumination required. The *means of egress* serving a room or space shall be illuminated at all times that the room or space is occupied.

Exceptions:

1. Occupancies in Group U.
2. *Aisle accessways* in Group A.
3. *Dwelling units* and *sleeping units* in Groups R-1, R-2 and R-3.
4. *Sleeping units* of Group I occupancies.

1008.2.1 Illumination level under normal power. The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with *self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

1008.2.2 Group I-2. In Group I-2 occupancies where two or more *exits* are required, on the exterior landings required by Section 1010.1.5, means of egress illumination levels for the exit discharge shall be provided such that failure of a single lamp in a luminaire shall not reduce the illumination level on that landing to less than 1 footcandle (11 lux).

1008.2.3 Exit discharge. Illumination shall be provided along the path of travel for the exit discharge from each exit to the *public way*.

Exception: Illumination shall not be required where the path of the exit discharge meets both of the following requirements:

1. The path of exit discharge is illuminated from the exit to a safe dispersal area complying with Section 1028.5.
2. A dispersal area shall be illuminated to a level not less than 1 footcandle (11 lux) at the walking surface.

Revise as follows:

~~1008.3~~ **1008.2.4 Emergency power** ~~Power~~ **for illumination.** The power supply for *means of egress* illumination shall normally be provided by the premises' electrical supply.

~~1008.3.1~~ **1008.3 General** ~~Illumination required with the emergency electrical system.~~ In the event of power supply failure in rooms and spaces that require two or more *exits* or access to exits, an emergency electrical system shall automatically illuminate all of the following areas:

1. *Aisles*.
2. *Corridors*.
3. *Exit access stairways* and *ramps*.

~~1008.3.2~~ **1008.3.1 Buildings.** In the event of power supply failure in buildings that require two or more *exits* or access to exits, an emergency electrical system shall automatically illuminate all of the following areas:

1. *Interior exit access stairways and ramps.*
2. *Interior and exterior exit stairways and ramps.*
3. *Exit passageways.*
4. Vestibules and areas on the level of discharge used for *exit discharge* in accordance with Section 1028.2.
5. Exterior landings as required by Section 1010.1.5 for *exit doorways* that lead directly to the *exit discharge*.

~~1008.3.3~~ **1008.3.2 Rooms and spaces.** In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Electrical equipment rooms.
2. Fire command centers.
3. Fire pump rooms.
4. Generator rooms.
5. Public restrooms with an area greater than 300 square feet (27.87 m²).

~~1008.3.4~~ **1008.3.3 Duration.** The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.

~~1008.3.5~~ **1008.3.4 Illumination level under emergency power.** Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 footcandle (6 lux) average and a minimum at any point of 0.06 footcandle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. In Group I-2 occupancies, failure of a single lamp in a luminaire shall not reduce the illumination level to less than 0.2 footcandle (2.2 lux).

Reason: The intent of this proposal is to split this section into requirements for general means of egress illumination (1008.2) and emergency lighting (1008.3). To truly accomplish this, the sections should be re-arranged as indicated.

Section 1008.3 is currently titled '*Emergency power for illumination.*' However, that section really deals with general MOE lighting requirements, not emergency lighting requirements. Emergency lighting power requirements are addressed Sections 1008.3.3 and 1008.3.4. So we relocated it from 1008.3 to 1008.2.3 to group the lighting requirements appropriately.

The text change in Section 1008.1 will match the scoping phrase used in 1008.3, 1008.3.1 and 1008.3.2. Title changes in Section 1008.2.3 and 1008.3 will reinforce the idea of two different requirements – one for regular lighting and one for emergency lighting.

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 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 BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a reorganization of existing text.

E24-21

Public Hearing Results

This proposal includes unpublished errata

~~1008.2.3~~ **1008.2.4 Power for illumination.** The power supply for *means of egress* illumination shall normally be provided by the premises' electrical supply.

Committee Action:

As Submitted

Committee Reason: The proposal was approved as an editorial grouping of means of egress and emergency lighting equipment. (Vote: 9-4)

Individual Consideration Agenda

Public Comment 1:

IBC: 1008.3 (New), 1008.3, 1008.3.1, 1008.3.2, 1008.3.3, 1008.3.4; (IFC [BE] 1008.3 (New), 1008.3, 1008.3.1, 1008.3.2, 1008.3.3, 1008.3.4)

Proponents: Jonathan Siu, representing Self requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

SECTION 1008 MEANS OF EGRESS ILLUMINATION

1008.1 Means of egress illumination . Illumination shall be provided in the *means of egress* in accordance with Section 1008.2. In the event of power supply failure, *means of egress* illumination shall comply with Section 1008.3.

1008.2 Illumination required . The *means of egress* serving a room or space shall be illuminated at all times that the room or space is occupied.

Exceptions:

1. Occupancies in Group U.
2. *Aisle accessways* in Group A.
3. *Dwelling units* and *sleeping units* in Groups R-1, R-2 and R-3.
4. *Sleeping units* of Group I occupancies.

1008.2.1 Illumination level under normal power . The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with *self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

1008.2.2 Group I-2 . In Group I-2 occupancies where two or more *exits* are required, on the exterior landings required by Section 1010.1.5, means of egress illumination levels for the exit discharge shall be provided such that failure of a single lamp in a luminaire shall not reduce the illumination level on that landing to less than 1 footcandle (11 lux).

1008.2.3 Exit discharge . Illumination shall be provided along the path of travel for the exit discharge from each exit to the *public way*.

Exception: Illumination shall not be required where the path of the exit discharge meets both of the following requirements:

1. The path of exit discharge is illuminated from the exit to a safe dispersal area complying with Section 1028.5.
2. A dispersal area shall be illuminated to a level not less than 1 footcandle (11 lux) at the walking surface.

1008.2.4 Power for illumination . The power supply for *means of egress* illumination shall normally be provided by the premises' electrical supply.

1008.3 Illumination required by an emergency electrical system . An emergency electrical system shall be provided to automatically illuminate the following areas in the event of a power supply failure:

1. In rooms or spaces that require two or more exits or access to exits:
 - 1.1. Aisles.
 - 1.2. Corridors.

1.3. Exit access stairways and ramps.

2. In buildings that require two or more exits or access to exits:

2.1. Interior exit access stairways and ramps.

2.2. Interior and exterior exit stairways and ramps.

2.3. Exit passageways

2.4. Vestibules and areas on the level of discharge used for exit discharge in accordance with Section 1028.2.

2.5. Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the exit discharge.

3. In other rooms and spaces:

3.1. Electrical equipment rooms.

3.2. Fire command centers.

3.3. Fire pump rooms.

3.4. Generator rooms.

3.5. Public restrooms with an area greater than 300 square feet (27.87 m²).

~~1008.3 Illumination required with the emergency electrical system system . In the event of power supply failure in rooms and spaces that require two or more exits or access to exits, an emergency electrical system shall automatically illuminate all of the following areas: an emergency an emergency~~

~~1. Aisles.~~

~~2. Corridors.~~

~~3. Exit access stairways and ramps.~~

~~1008.3.1 Buildings . In the event of power supply failure in buildings that require two or more exits or access to exits, an emergency electrical system shall automatically illuminate all of the following areas:~~

~~1. Interior exit access stairways and ramps.~~

~~2. Interior and exterior exit stairways and ramps.~~

~~3. Exit passageways.~~

~~4. Vestibules and areas on the level of discharge used for exit discharge in accordance with Section 1028.2.~~

~~5. Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the exit discharge.~~

~~1008.3.2 Rooms and spaces . In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:~~

~~1. Electrical equipment rooms.~~

~~2. Fire command centers.~~

~~3. Fire pump rooms.~~

~~4. Generator rooms.~~

~~5. Public restrooms with an area greater than 300 square feet (27.87 m²).~~

~~1008.3.3 1008.3.1 Duration . The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.~~

~~1008.3.4 1008.3.2 Illumination level under emergency power . Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 footcandle (6 lux) average and a minimum at any point of 0.06 footcandle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. In Group I-2 occupancies, failure of a single lamp in a luminaire shall not reduce the illumination level to less than 0.2 footcandle (2.2 lux).~~

Commenter's Reason: This proposed reorganization of Section 1008.3 does not improve the code, and in fact, makes it more difficult to enforce. This public comment is intended to clarify the application of the code provisions, while preserving the intent of the original code change proposal. Under the current organization, each subsection in Section 1008.3 stands by itself--the requirements in the subsection are charged within that

subsection. However, with the proposed code change, the old subsections 1008.3.2 and 1008.3.3 are now subsections to 1008.3. The problem is that the language in 1008.3 is not being changed to provide charging language for the new 1008.3.1 or 1008.3.2.

Referring to the section numbering in the proposal, 1008.3 says aisles, corridors, and exit access stairways and ramps need to have emergency illumination. However, 1008.3.1 and 1008.3.2 require illumination for buildings, rooms, and spaces that are not aisles, corridors, or exit access stairways/ramps. If they are subsections to 1008.3, how do you get to them? 1008.3 isn't providing any sort of charging language for 1008.3.1 or 1008.3.2, and subsection numbering is not a substitute for charging language.

This public comment charges all the provisions for where an emergency electrical system for means of egress illumination is required in the text of Section 1008.3 ("...shall be provided...in all of the following areas....") It also simplifies the code by removing repetitive code text and replacing the subsections with a single list.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The cost impact statement for original proposal said it is a reorganization of the existing text. This public comment is merely a further reorganization of the proposed text.

Public Comment# 2866

E25-21

Proposed Change as Submitted

Proponents: Andrew Klein, representing Self Storage Association (andrew@asklein.com)

2021 International Building Code

Revise as follows:

1008.2 Illumination required. The *means of egress* serving a room or space shall be illuminated at all times that the room or space is occupied.

Exceptions:

1. Occupancies in Group U.
2. Self-service storage units accessed directly from the exterior.
- ~~3.2.~~ Aisle accessways in Group A.
- ~~4.3.~~ Dwelling units and sleeping units in Groups R-1, R-2 and R-3.
- ~~5.4.~~ Sleeping units of Group I occupancies.

Reason: Although classified as Group S, exterior-access self storage facilities (those with rolling doors that open up for each unit) are similar in nature to Group U occupancies in the fact they are small, easily navigable, and have short dwell times. Many jurisdictions already do not require lighting inside of such units because they are not considered occupiable, and the safety concern of tenants unsing electricity for personal use and unregulated activities. This code change codifies for all jurisdictions that providing light inside of such units is unnecessary from a safety perspective and therefore not required.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. Most jurisdictions already interpret the code to not require illumination in self-service storage units that are accessible from the exterior. For jurisdictions that do require illumination, this code change will decrease the cost of construction.

E25-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the proposal did not limit the size of the self-storage facility that could use this exception. The proposal would be better if it also added "of the building" after "exterior." (Vote: 14-0)

E25-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1008.2 (IFC:[BE]1008.2)

Proponents: Andrew Klein, representing Self Storage Association (andrew@asklein.com) requests As Modified by Public Comment

Further modify as follows:

2021 International Building Code

1008.2 Illumination required. The *means of egress* serving a room or space shall be illuminated at all times that the room or space is occupied.

Exceptions:

1. Occupancies in Group U.
2. Self-service storage units 400 ft² (37.16 m²) or less in area and accessed directly from the exterior of the building.
3. *Aisle accessways* in Group A.
4. *Dwelling units* and *sleeping units* in Groups R-1, R-2 and R-3.
5. *Sleeping units* of Group I occupancies.

Commenter's Reason: This PC address the concerns of the committee. A maximum area of 400 SF was determined by the industry to be the maximum unit size to allow sufficient day light or exterior site lighting into all areas of the unit when the door is open.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction
This PC will decrease the cost of construction where interior lighting would otherwise be required within self-storage units.

Public Comment# 2910

E26-21 Part I

Proposed Change as Submitted

Proponents: Bryan P. Holland, MCP, CStd., National Electrical Manufacturers Association, representing National Electrical Manufacturers Association (bryan.holland@nema.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. PART II WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Add new definition as follows:

ENERGY STORAGE SYSTEM (ESS). One or more devices, assembled together, capable of storing energy in order to support electrical energy at a future time.

Revise as follows:

1008.3.4 Duration. The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of an energy storage system (ESS), storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.

1013.6.3 Power source. Exit signs shall be illuminated at all times. To ensure continued illumination for a duration of not less than 90 minutes in case of primary power loss, the sign illumination means shall be connected to an emergency power system provided from an energy storage system (ESS), storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Chapter 27. Group I-2, Condition 2 exit sign illumination shall not be provided by unit equipment batteries only.

Exception: *Approved* exit sign illumination types that provide continuous illumination independent of external power sources for a duration of not less than 90 minutes, in case of primary power loss, are not required to be connected to an emergency electrical system.

Add new standard(s) as follows:

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471

NFPA 855-20

Standard for the Installation of Stationary Energy Storage Systems

Reason: The purpose of this proposal is to add energy storage systems (ESS) as a code recognized method to provide emergency or standby power for means of egress illumination and exit signs in Chapter 10 of the code. The proposal also includes product safety certification requirements in 1203.1.1/2702.1.1 and a pointer to the NFPA 855 in 1203.1.3/2702.1.3. Inclusion of ESS in the IFC/IBC aligns the codes with Article 706 of NFPA 70.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. The inclusion of Energy Storage Systems (ESS) as an option to provide code required emergency or standby power will not increase nor decrease the cost of construction.

Staff Analysis: A review of the standard proposed for inclusion in the code, NFPA 855-20, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before March 20, 2021.

E26-21 Part I

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the new definition for energy storage system did not match the IFC or IECC definitions. This is addressed in the IFC, so it does not need to be added into IBC. The standard for these systems, NFPA855-20 should be referenced in the IBC if this is to be added. (Vote 14-0)

E26-21 Part I

Individual Consideration Agenda

Public Comment 1:

PART I - IBC: SECTION 202; (IFC:[BE]SECTION 202)

Proponents: Steven Rosenstock, representing Edison Electric Institute (srosenstock@eei.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

ENERGY STORAGE SYSTEM (ESS) . ~~One or more devices, assembled together, capable of storing energy in order to support electrical energy at a future time.~~ One or more components assembled together capable of storing energy and providing electrical energy into the premises wiring system or an electric power production and distribution network.

Commenter's Reason: This proposed language for the definition will match the approved language found in other standards and codes, such as the National Electrical Code.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This public comment only revises the definition and will have no impact on the cost of construction.

Public Comment# 2514

NOTE: E26-21 PART II DID NOT RECEIVE A PUBLIC COMMENT AND IS REPRODUCED FOR INFORMATIONAL PURPOSES ONLY

E26-21 Part II

Proposed Change as Submitted

Proponents: Bryan Holland, National Electrical Manufacturers Association, representing National Electrical Manufacturers Association
(bryan.holland@nema.org)

2021 International Fire Code

Revise as follows:

1203.1.1 Stationary generators and energy storage systems (ESS). Stationary emergency and standby power generators required by this code shall be *listed* in accordance with UL 2200. Energy storage systems (ESS) installed as an emergency or standby power system required by this code shall be listed in accordance with UL 9540.

1203.1.3 Installation. Emergency power systems and standby power systems shall be installed in accordance with the *International Building Code*, NFPA 70, NFPA 110 and NFPA 111 and NFPA 855.

Add new standard(s) as follows:

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471

NFPA 855-20

Standard for the Installation of Stationary Energy Storage Systems

Reason: See E26-21 Part 1

Cost Impact: The code change proposal will not increase or decrease the cost of construction
See E26-21 Part 1

Staff Analysis: A review of the standard proposed for inclusion in the code, NFPA 855-20, with regard to the ICC criteria for referenced standards (Section 3.6 of CP#28) will be posted on the ICC website on or before March 20, 2021.

E26-21 Part II

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved based upon the action on F123-21. Section 1207 is a more appropriate compliance path.
(Vote: 14-0)

E26-21 Part II

Proposed Change as Submitted

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

2021 International Building Code

Revise as follows:

1009.1 Accessible means of egress required. *Accessible* means of egress shall comply with this section. *Accessible* spaces shall be provided with not less than one accessible means of egress. Where more than one *means of egress* is required by Section 1006.2 or 1006.3 from any accessible space, each *accessible* portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. One *accessible means of egress* is required from an *accessible mezzanine* level in accordance with Section 1009.3, 1009.4 or 1009.5.
2. In assembly areas with ramped *aisles* or stepped *aisles*, one *accessible means of egress* is permitted where the *common path of egress travel* is *accessible* and meets the requirements in Section 1030.8. The common path of travel shall be measured from the wheelchair spaces along an accessible route to that point where the occupants have a choice of two accessible routes to accessible means of egress.

1030.8 Common path of egress travel. The *common path of egress travel* shall not exceed 30 feet (9144 mm) from any seat to a point where an occupant has a choice of two paths of egress travel to two *exits*.

Exceptions:

1. For areas serving less than 50 occupants, the *common path of egress travel* shall not exceed 75 feet (22 860 mm).
2. For *smoke-protected* or *open-air assembly seating*, the *common path of egress travel* shall not exceed 50 feet (15 240 mm).

Reason: The intent of this proposal is to emphasize an existing requirement for accessible ways out of assembly spaces. Assemble seating is required to have at least one accessible route into a space. Wheelchair spaces have to be provided, integrated and dispersed. In space with 50 or more occupants, at least two accessible means of egress are required. Section 1009.1 allows for persons with mobility devices to return back the way out the along the same route they used to get to their seats up so the length of the common path of travel. This provides for an equivalent level of safety for everyone in the assembly seating.

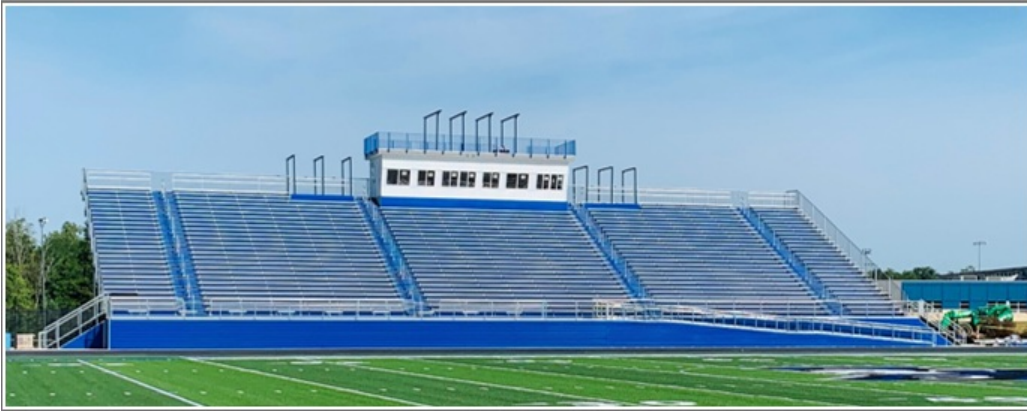
This can apply to spaces such as theaters, stadiums, bleachers, grandstands and folding and telescopic seating. Where this is currently being missed the most in is raised bleacher seating. The designers provide one ramp to get in, but commonly only have one steps on the other ends of the bleachers. Very often, this common path of travel could be met by one ramp the ends at the center of the bleachers.

ICC 300 Standard for Bleachers, Folding and Telescopic Seating, and Grandstands had similar criteria for common path of egress travel –

407.4.1 Path of egress travel. For rows of seating served by only one path of egress travel, the common path of egress travel shall not exceed 30 feet (9144 mm) from any seat to a point where a person has a choice of two paths of egress travel to two exits.

Exceptions:

1. In smoke-protected or open-air assembly seating, the common path of egress travel shall not exceed 50 feet (15 240 mm) from any seat to a point where a person has a choice of two paths of egress travel to two exits.
2. For areas serving less than 50 occupants, the common path of egress travel shall not exceed 75 feet (22 860 mm) from any seat to a point where a person has a choice of two paths of egress travel to two exits.
3. Where bench-type seating without backrests is utilized and the top of the bench is no more than 7 inches (178 mm) above the footrest immediately behind, the common path of egress travel shall not exceed 75 feet (22 860 mm) from any seat to a point where a person has a choice of two paths of egress travel to two exits.



Example of ramp access to center of raised bleachers.



Example with ramp only at one end of bleachers.

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 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 BCAC.

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

This is a clarification. It is not a change in the requirements for bleachers, grandstands or folding and telescopic seating.

E27-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because exit access stairways can serve as part of an accessible means of egress, so raised bleachers already meet Section 1009 with two sets of stairways. The proposal is adding requirements - if you only need one accessible route to get onto the bleachers, why would you need two accessible routes off the bleachers? The proposal should add "egress" in the phrase "common path of travel" so they are using a defined term. This should be in the ICC 300, not the IBC. There were concerns raised that steps from a raised bleacher were not between stories or mezzanines, therefore they would not comply with Section 1009.3. (Vote: 9-5)

E27-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1009.1 (IFC:[BE]1009.1)

Proponents: Mike Nugent, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1009.1 Accessible means of egress required . *Accessible* means of egress shall comply with this section. *Accessible* spaces shall be provided with not less than one accessible means of egress. Where more than one *means of egress* is required by Section 1006.2 or 1006.3 from any accessible space, each *accessible* portion of the space shall be served by not less than two accessible means of egress.

Exceptions:

1. One *accessible means of egress* is required from an *accessible mezzanine* level in accordance with Section 1009.3, 1009.4 or 1009.5.
2. In assembly areas with ramped *aisles* or stepped *aisles*, one *accessible means of egress* is permitted where the *common path of egress travel* is *accessible* and meets the requirements in Section 1030.8. The common path of *egress* travel shall be measured from the wheelchair spaces along an accessible route to that point where the occupants have a choice of two accessible routes to accessible means of egress.

Commenter's Reason: The modification is to use the defined term for common path of egress travel as suggested by the committee. The ICC 300 references back to the IBC for accessible means of egress (ICC 300 Section 404.1) and accessibility requirements (ICC 300 Section 310.1), therefore, this does not belong in ICC 300 as suggested by the committee. This requirement would also apply to raised tiered seating systems, not just the bleachers shown in the pictures. ICC 300 Table 404.1 requires two means of egress for bleachers with 251 or greater occupants, therefore, two accessible means of egress are already required for these large bleachers. The suggestion by some of the committee members that the stairways to raised bleachers can serve as part of an accessible means of egress is not correct because these are not stairways between stories (IBC Section 1009.3).

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction

This is a clarification. It is not a change in the requirements for bleachers, grandstands or folding and telescopic seating.

E28-21

Proposed Change as Submitted

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

2021 International Building Code

Revise as follows:

1009.2.1 Elevators required. In buildings where a required accessible floor ~~or occupied roof~~ is four or more stories above or below a level of exit discharge ~~or where an accessible occupied roof is above a story that is three or more stories above the level of exit discharge~~, not less than one required accessible means of egress shall ~~be include~~ an elevator complying with Section 1009.4.

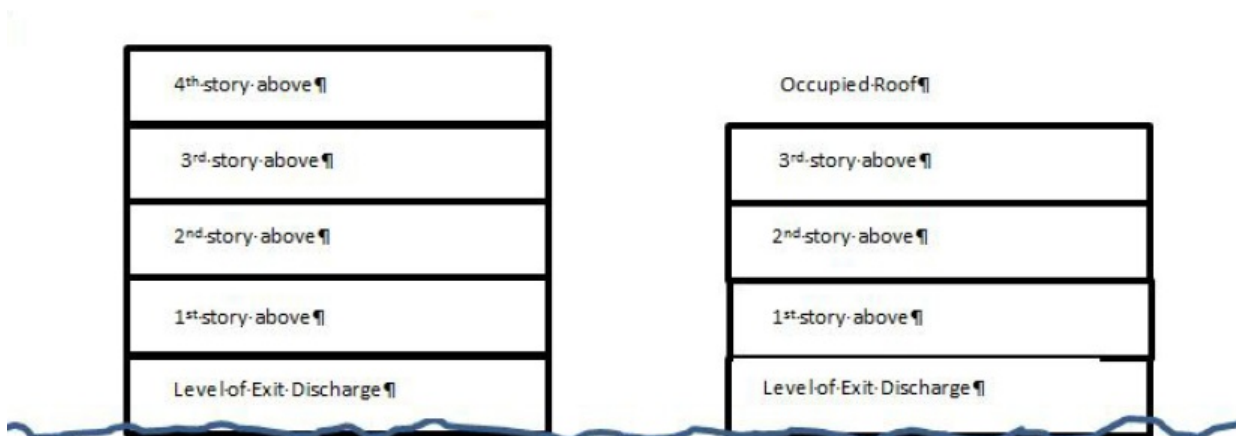
Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of the accessible means of egress on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *ramp* conforming to the provisions of Section 1012.

Reason: The intent of this proposal is a clarification in terminology.

The new language added by E30-18 is confusing. An occupied roof is not a story. Therefore, to be clear, the requirement for an occupied roof should be dealt with separately from the number of stories in a building. It is not the intent of this proposal to change to result of what was voted approved by the MOE Code Development Committee.

It is important to point out that the original change said that there was no fiscal impact. Since the occupied roof is not considered a story for height and area limitations, with the 2018 text, it could have been interpreted that standby power was not required to an occupied roof on a 4 story building. Therefore, this does have a significant cost for a 4 story building that decides to have an occupied roof.



Height at which standby power would be required on the elevator for accessible MOE ¶

The addition of “as part of the means of egress” added into the exceptions will clarify this limitation all the exception. The elevator is part of the accessible means of egress, not the only piece. When an elevator is required as part of an accessible means of egress, Section 1009.4 would require standby power.

This is one of a series of three independent proposals for this section. If all three are passed, the result will be this. The proposals each stand on their own.

1009.2.1 Elevators required.

In buildings where a required accessible floor or occupied roof is four or more *stories* above or below a *level of exit discharge* or where an accessible occupied roof is above a story that is three or more stories above the level of exit discharge, not less than one required *accessible means of egress* shall be an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of an accessible means of egress on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of an accessible means of egress on floors or occupied roofs provided with a *ramp* conforming to the provisions of Section 1012.
3. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required as part of an accessible means of egress for an occupied roof where the floors located at or above the level of exit discharge are provided with a horizontal exit.

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 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 BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification of the text and has no technical changes to construction requirements.

E28-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because an occupied roof is not a story so this revision does not clarify the requirements.
(Vote: 8-6)

E28-21

Individual Consideration Agenda

Public Comment 1:

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

Commenter's Reason: The committee statement for disapproval is the very reason that this proposal is needed. There was a tendency to overthink the issue here. But, clearly an occupied roof is not a story – therefore it needs to be clarified on what height of building (in stories) with an occupied roof needs to provide an elevator with standby power. Standby power is an expensive item, so it is important to be technically correct.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction
This is a clarification of the text and has no technical changes to construction requirements.

Public Comment# 2587

Proposed Change as Submitted

Proponents: Andrew Klein, representing Self Storage Association (andrew@asklein.com)

2021 International Building Code

Revise as follows:

1009.2.1 Elevators required. In buildings where a required accessible floor or occupied roof is four or more stories above or below a *level of exit discharge*, not less than one required *accessible means of egress* shall be an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *ramp* conforming to the provisions of Section 1012.
3. In parking garages with no accessible parking space on levels other than the level of exit discharge, the elevator shall serve as an part of an accessible means of egress for stories or occupied roofs six or more stories above a level of exit discharge.
4. In self-service storage facilities with no accessible self-storage spaces on levels other than the level of exit discharge, the elevator shall serve as an part of an accessible means of egress for stories or occupied roofs six or more stories above a level of exit discharge.

Reason: Parking garages and self-service storage facilities have extremely low occupancy loads. Increasing the 4-story limit to 6-stories for when standby power for elevators is required takes this practical difference in uses into account.

Cost Impact: The code change proposal will decrease the cost of construction

The significant cost of a standby generator can be avoided in 5- and 6- story parking garages and self-service storage facilities if this code change passes.

E33-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because the language could be read to only require an accessible means of egress from the 6th floor and above. People with mobility impairments could be on the upper floors. (Vote: 14-0)

E33-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1009.2.1 (IFC:[BE]1009.2.1)

Proponents: Andrew Klein, representing Self Storage Association (andrew@asklein.com) requests As Modified by Public Comment

Further modify as follows:

2021 International Building Code

1009.2.1 Elevators required . In buildings where a required accessible floor or occupied roof is four or more stories above or below a *level of exit discharge*, not less than one required *accessible means of egress* shall be an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *ramp* conforming to the provisions of Section 1012.
- ~~3. In parking garages with no accessible parking space on levels other than the level of exit discharge, the elevator shall serve as an part of an accessible means of egress for stories or occupied roofs six or more stories above a level of exit discharge.~~
- ~~3.4. In self-service storage facilities with no where all accessible self-storage spaces required by Table 1109.3 are on levels other than the level of exit discharge, the elevator shall serve as an part of an accessible means of egress for stories or occupied roofs six or more stories above a level of exit discharge.~~ accessible means of egress shall be an elevator complying with Section 1009.4 in buildings where a required accessible floor or occupied roof is six or more stories above or below a level of exit discharge.

Commenter's Reason: This PC cleans up the language to make it clear that an accessible means of egress is required only in buildings with a 6th floor or more in self-service storage facilities (defined in Chapter 2) that locate the required number of accessible spaces on the level of exit discharge.

At the CAH, there was opposition about the inclusion of parking garages, so that exception was not included as part of this PC.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction. This PC will allow 4- and 5-story self service storage facilities to avoid the need of a backup generator to power an elevator.

Public Comment# 2914

E40-21

Proposed Change as Submitted

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

2021 International Building Code

Revise as follows:

1010.1.1 Size of doors. The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear opening width of 32 inches (813 mm). The clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm). In Group I-2, doors serving as means of egress doors where used for the movement of beds shall provide a minimum clear opening width of 41½ inches (1054 mm). The minimum clear opening height of doors shall be not less than 80 inches (2032 mm).

Exceptions:

1. In Group R-2 and R-3 *dwelling and sleeping units* that are not required to be an *Accessible unit*, *Type A unit* or *Type B unit*, the minimum width shall not apply to door openings that are not part of the required *means of egress*.
2. In Group I-3, door openings to resident *sleeping units* that are not required to be an *Accessible unit* shall have a minimum clear opening width of 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum clear opening width.
4. The maximum width of door leaves in revolving doors that comply with Section 1010.3.1 shall not be limited.
5. The maximum width of door leaves in *power-operated doors* that comply with Section 1010.3.2 shall not be limited.
6. Door openings within a *dwelling unit* or *sleeping unit* shall have a minimum clear opening height of 78 inches (1981 mm).
7. In *dwelling and sleeping units* that are not required to be *Accessible*, *Type A* or *Type B units*, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).
8. In Groups I-1, R-2, R-3 and R-4, in *dwelling and sleeping units* that are not required to be *Accessible*, *Type A* or *Type B units*, the minimum clear opening widths shall not apply to interior egress doors.
9. Door openings required to be *accessible* within *Type B units* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).
10. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m²) in area shall have a maximum width of 60 inches (1524 mm) nominal.
11. Doors serving ~~nonaccessible single-user shower or sauna compartments, toilet stalls—compartments or dressing, fitting or changing rooms—~~ compartments that are not required to be accessible shall have a minimum clear opening width of 20 inches (508 mm).
12. Door serving shower compartments in other than Accessible units or Type A units are not required to provide a minimum clear opening width.

Reason: The intent of this proposal clarify which spaces the exception applies to, and remove a conflict for shower compartments with sliding shower compartment doors.

E40-18 was a proposal that added an exception for non-accessible dressing rooms or fitting rooms. This was Disapproved during the Committee Action Hearings because it could be applied to a large changing room that accommodates several individuals, such as a bridal fitting room where the 32" clear width door opening is necessary. The revision to Exception #11 would clarify that this applies to compartments, not rooms. The Proponent submitted a Public Comment revising and combining some of the exceptions into one exception for doors serving non-accessible single-user showers, toilet stalls, and dressing rooms, and allowed for a minimum clear opening width of 20". The Reason Statement stated that the 20" width came from research to address doors serving these types of individual uses, and that it would address the needs of non-accessible dressing rooms, single-use toilet rooms, and shower compartments — all for single-person use rooms.

Exception #11 currently requires a 20" minimum clear opening for doors serving non-accessible single shower compartments. But that minimum clear opening width would conflict with the width of a sliding door on a standard 36"x36" shower compartments.

Revising exception #11 would remove shower compartments from the list of spaces where a 20" clear width opening requirement would apply to the door opening and move that to exception #12. Shower compartments in Accessible and Type A units would comply with 2017 ICC A117.1

requirements in Section 608.7. Type B units do not have a requirement for an opening width of the shower compartment door (2017 ICC A117.1 Section 1104.5.2 and 1004.11.3.1.3.3). This change to the exceptions in this section would protect remodelers who do work on Type B or non-accessible bathrooms with limited space and without having to make adjustments such as moving the walls of a shower unit to accommodate a 20" clear width door opening or to change to enclosure to a swinging instead of a sliding door. This would be an unnecessary additional cost. This width has never been identified as a safety hazard.

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 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 BCAC.

Cost Impact: The code change proposal will decrease the cost of construction

This will allow for standard sliding shower doors instead of requiring swinging doors on shower compartments. Swinging doors typically also need a larger room size.

E40-21

Public Hearing Results

This proposal includes the following errata

The underline was missing from Section 1010.1.1 Item 11 for the phrase "compartments that are not required to be accessible."

Committee Action:

As Submitted

Committee Reason: The proposal was approved because the added exception 12 allowed for sliding doors on standard 36 inch wide showers. These showers cannot make the 20" minimum width in exception 11. There was concern that this needs to be coordinated with IPC Section 421.4.2. (Vote: 10-4)

E40-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1010.1.1

Proponents: Richard Williams, representing Washington Association of Building Officials Technical Code Development Committee (richard@cwaconsultants.net); Micah Chappell, representing Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1010.1.1 Size of doors . The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear opening width of 32 inches (813 mm). The clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm). In Group I-2, doors serving as means of egress doors where used for the movement of beds shall provide a minimum clear opening width of 41½ inches (1054 mm). The minimum clear opening height of doors shall be not less than 80 inches (2032 mm).

Exceptions:

1. In Group R-2 and R-3 *dwelling and sleeping units* that are not required to be an *Accessible unit*, *Type A unit* or *Type B unit*, the minimum width shall not apply to door openings that are not part of the required *means of egress*.
2. In Group I-3, door openings to resident *sleeping units* that are not required to be an *Accessible unit* shall have a minimum clear opening width of 28 inches (711 mm).

3. Door openings to storage closets less than 10 square feet (0.93 m²) in area shall not be limited by the minimum clear opening width.
4. The maximum width of door leaves in revolving doors that comply with Section 1010.3.1 shall not be limited.
5. The maximum width of door leaves in *power-operated doors* that comply with Section 1010.3.2 shall not be limited.
6. Door openings within a *dwelling unit* or *sleeping unit* shall have a minimum clear opening height of 78 inches (1981 mm).
7. In *dwelling and sleeping units* that are not required to be *Accessible*, Type A or *Type B units*, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).
8. In Groups I-1, R-2, R-3 and R-4, in *dwelling and sleeping units* that are not required to be *Accessible*, Type A or *Type B units*, the minimum clear opening widths shall not apply to interior egress doors.
9. Door openings required to be *accessible* within *Type B units* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).
10. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m²) in area shall have a maximum width of 60 inches (1524 mm) nominal.
11. Doors serving sauna compartments, toilet compartments or dressing, fitting or changing compartments that are not required to be accessible shall have a minimum clear opening width of 20 inches (508 mm).
12. Door serving shower compartments ~~in other than Accessible units or Type A units are not required to provide a minimum clear opening width.~~ shall comply with Section 421.4.2 of the International Plumbing Code .

Commenter's Reason: This proposal attempts to clarify requirements for shower doors by removing them from Exception 11 and adding a new exception specific to shower compartments. In doing so, it creates confusion by including Accessible units and Type A units found in R occupancies to a section that previously only addressed accessible spaces in commercial buildings. In fact it now only addresses Accessible units and Type A units. Because of the the way it is worded, this proposal removes door opening width requirements for shower doors in some accessible shower areas. **This means that this section now indicates there is no minimum width requirement for shower doors in single user shower compartments - whether they are accessible or not – and this is clearly not correct.**

One reason cited for revising exception 11 is that because a 20" minimum clear opening is currently required for doors serving non-accessible single shower compartments, that minimum width requirement would conflict with a sliding door on a standard 36"x36" shower compartment. This is not necessarily a conflict, it merely means that it is not possible to install a sliding door where a 36" width is provided because it will not provide the minimum required width. In these situations, a hinged door would be required in order to provide the minimum width. This is no different than any other area of the building where a sliding door is allowed: if there is not enough physical space to install the sliding door to allow for the required clear width, then a hinged door would instead be required.

Exception 12 also does not include Type B units along with Accessible units and Type A units. This means a minimum width requirement would not apply to Type B units. The reason statement claims Type B units do not have a requirement for an opening width of the shower door compartment, per sections 1104.5.2 and 1004.11.3.1.3.3, but this is not entirely accurate. Section 1104.5.2 contains an exception that states doors that are part of a shower door assembly shall not be required to comply with minimum width requirements. Section 1104.11.3.1.3.3 sets a minimum opening width of 36" for shower compartments, but it allows for shower door assemblies to be installed in shower compartments as long as these assemblies can be removed without removal or replacement of the surrounding walls and floor to which it is affixed. This is an important distinction from other shower areas that would allow for any framed opening width less than 36" to accommodate a shower door and the author of this proposal does not seem to acknowledge this:

"...This change to the exceptions in this section would protect remodelers who do work on Type B or non-accessible bathrooms with limited space and without having to make adjustments such as moving the walls of a shower unit to accommodate a 20"clear width door opening or to change to enclosure to a swinging instead of a sliding door. This would be an unnecessary additional cost. This width has never been identified as a safety hazard."

The reference will indicate the minimum width requirement for most shower doors in the IPC. Also, while we certainly do not think it was the intent of the author of this proposal, exception 12 eliminates the minimum width requirement for shower doors in ACCESSIBLE SHOWER COMPARTMENTS other than those in Accessible units and Type A units. This is clearly not permitted.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction
No change to code.

Proposed Change as Submitted

Proponents: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Assoc. (BHMA)
(jwoestman@kellencompany.com)

2021 International Building Code

Add new definition as follows:

AUTOMATIC FLUSH BOLT. Door locking hardware, installed on the inactive leaf of a pair of doors, which has a bolt that is extended automatically into the door frame or floor when the active leaf is closed after the inactive leaf, and which holds the inactive leaf in a closed position. When the active leaf is opened, the automatic flush bolt retracts the bolt or rod allowing the inactive leaf to be opened (see CONSTANT LATCHING BOLT, DEAD BOLT, MANUAL BOLT).

CONSTANT LATCHING BOLT. Door locking hardware installed on the inactive leaf of a pair of doors, which has a bolt that automatically latches into the door frame or the floor, and which holds the inactive leaf in a closed position. The latch bolt is retracted manually to allow the inactive leaf to be opened.

DEAD BOLT. Door locking hardware with a bolt which is extended and retracted by action of the lock mechanism (see AUTOMATIC FLUSH BOLT, CONSTANT LATCHING BOLT, MANUAL BOLT).

MANUAL BOLT. Door locking hardware operable from one side of the door, or from the edge of a door leaf, with a bolt or rod extended and retracted by manual movement of the bolt or rod, such as a manual flush bolt or manual surface bolt (see AUTOMATIC FLUSH BOLT, CONSTANT LATCHING BOLT, DEAD BOLT).

Revise as follows:

1010.2.1 Unlatching. The unlatching of any door or leaf for egress shall require not more than one motion in a single linear or rotational direction to release all latching and all locking devices. Manual bolt locks are not permitted.

Exceptions:

1. Places of detention or restraint.
2. Where ~~manually-operated~~ manual bolt locks are permitted by Section 1010.2.5, 1010.2.4 Item 4.
3. Doors with *automatic flush bolts* as permitted by Section 1010.2.4, Item 4.
4. Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.2.4, Item 5.

1010.2.4 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 3.1. The locking device is readily distinguishable as locked.
 - 3.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
 - 3.3. The use of the key-operated locking device is revocable by the *building official* for due cause.
4. ~~Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.~~ Manual bolt locks, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided the inactive leaf having a manual bolt lock, automatic flush bolt, or constant latching bolt does not have a doorknob, panic hardware, or similar operating hardware.
5. Doors from individual *dwelling* or *sleeping units* of Group R occupancies having an *occupant load* of 10 or less are permitted to be equipped with a night latch, *dead bolt*, manual bolt, or security chain, provided such devices are openable from the inside without the use of a key or tool.

6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.
8. Other than egress *courts*, where occupants must egress from an exterior space through the building for *means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
 - 8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
 - 8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
 - 8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
 - 8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m²) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
 - 8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
 - 8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m²) or less serving a private office space.

Add new text as follows:

TABLE 1010.2.4 MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS

<u>APPLICATION WHERE A PAIR OF DOORS WITH AN ACTIVE LEAF AND INACTIVE LEAF SERVE THE FOLLOWING:</u>	<u>OCCUPANT LOAD OF SPACE SERVED BY THE PAIR OF DOORS</u>	<u>THE PAIR OF DOORS ARE REQUIRED TO COMPLY WITH SECTION 716</u>	<u>PERMITTED USES OF MANUAL BOLT LOCKS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS.</u>		
			<u>Manual flush bolts or manual surface bolts with manual extension and retraction of bolt.</u>	<u>Automatic flush bolts with automatic extension and retraction of bolt by action of active leaf.</u>	<u>Constant latching bolts with automatic latching and manual retraction of bolt or latch.</u>
<u>Group B, F, or S occupancy.</u>	<u>Less than 50</u>	<u>NO</u>	<u>P</u>	<u>P</u>	<u>P</u>
		<u>YES</u>	<u>NP</u>	<u>P^b</u>	<u>P</u>
<u>Group B,F, or S occupancies where the building is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1, and where the inactive leaf is not needed to meet egress capacity requirements.</u>	<u>Occupant load served by the active leaf.</u>	<u>NO</u>	<u>P</u>	<u>P</u>	<u>P</u>
		<u>YES</u>	<u>NP</u>	<u>P^b</u>	<u>P</u>
<u>Patient care rooms in Group I-2 occupancies, and where the inactive leaf is not needed to meet egress capacity requirements.</u>	<u>Occupant load served by the active leaf.</u>	<u>NO</u>	<u>NP</u>	<u>P^b</u>	<u>P</u>
		<u>YES</u>	<u>NP</u>	<u>P^b</u>	<u>P</u>
<u>Occupancies where panic hardware is not required, the egress doors are used in pairs, and where both the active and inactive leaves are required to meet egress capacity requirements.</u>	<u>Occupant load served by both leaves.</u>	<u>NO</u>	<u>NP</u>	<u>P</u>	<u>NP</u>
		<u>YES</u>	<u>NP</u>	<u>P^b</u>	<u>NP</u>
<u>Storage or equipment rooms.</u>	<u>Occupant load served by the active leaf.</u>	<u>NO</u>	<u>P^a</u>	<u>P</u>	<u>P</u>
		<u>YES</u>	<u>P^a</u>	<u>P</u>	<u>P</u>

P - Permitted; NP - Not permitted.

- a. Not permitted in Group I-2 where corridor doors are required to be positive latching, and the storage or equipment room door is in the corridor.
- b. Permitted where both doors are self-closing or automatic-closing, and have a coordinator that causes the inactive leaf to be closed prior to the active leaf.

Delete without substitution:

1010.2.5 Bolt locks.

Manually operated flush bolts or surface bolts are not permitted.

Exceptions:

1. ~~On doors not required for egress in individual dwelling units or sleeping units.~~
2. ~~Where a pair of doors serves a storage or equipment room, manually operated edge or surface mounted bolts are permitted on the inactive leaf.~~
3. ~~Where a pair of doors serves an occupant load of less than 50 persons in a Group B, F or S occupancy, manually operated edge or surface mounted bolts are permitted on the inactive leaf. The inactive leaf shall not contain doorknobs, panic bars or similar operating hardware.~~
4. ~~Where a pair of doors serves a Group B, F or S occupancy, manually operated edge or surface mounted bolts are permitted on the inactive leaf provided that such inactive leaf is not needed to meet egress capacity requirements and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. The inactive leaf shall not contain doorknobs, panic bars or similar operating hardware.~~
5. ~~Where a pair of doors serves patient care rooms in Group I-2 occupancies, self-latching edge or surface mounted bolts are permitted on the inactive leaf provided that the inactive leaf is not needed to meet egress capacity requirements and the inactive leaf shall not contain doorknobs, panic bars or similar operating hardware.~~

Reason: The IBC is rather confusing regarding dead bolts, manual bolt locks, and automatic flush bolts leading to significant variability in interpretations and application of the code.

This proposal offers four definitions, and revises sections of the IBC where these hardware items are addressed with requirements.

The most significant revision is to incorporate all the requirements of Section 1010.2.5 into Sections 1010.2.1 and 1010.2.4.

Here's what happened with requirements and exceptions of 1010.2.5:

- The charging language that "manually operated flush bolts and surface bolts are not permitted" is revised based on the proposed definition of "manual bolt" and included in the charging language of 1010.2.1. Exception 2 of 1010.2.1 was also revised based on the definition of "manual bolt".
- Exception 1 of 1010.2.5 is included in revised 1010.2.4 Item 5 with inserting "manual bolt" in that item.
- Exceptions 2 through 5 of 1010.2.5 are included in proposed Table 1010.2.4. Item 4 of 1010.2.4 is revised to reference Table 1010.2.4.

The applications in Exceptions 2 through 5 of 1010.2.5 are incorporated into proposed Table 1010.2.4. Also included in this table is Item 4 of 1010.2.4, which is an application where automatic flush bolts are acceptable: Spaces served by egress doors in pairs where the doors are not required to be equipped with panic hardware, and both door leaves are used for egress capacity.

Also, doors required to comply with IBC Section 716 (opening protectives) are also required to be self-latching or automatic latching. Proposed Table 1010.2.4 includes this determining factor as to what hardware may be used.

Several technical changes were incorporated in proposed Table 1010.2.4 that are not currently in these sections:

- For Group I-2, the table clarifies manual bolt locks are not appropriate for use on patient care room doors where the door is required to be positive latching.
- The current requirements don't differentiate between doors required to be fire-rated or not. That is, required to comply with Section 716 or not.
- For I-2 patient care rooms, Exception 5 of 1010.2.5 permitted what are called constant latching bolts. But the code was silent on other applications where these door hardware items may be desired and appropriate (where the inactive leaf is not needed for egress).
- Didn't address using automatic flush bolts on the inactive leaf of patient care rooms, if the doors have closers and a coordinator which causes the inactive leaf to close prior to the active leaf.
- For storage and equipment rooms, manual bolts have been permitted, but automatic flush bolts and constant latching bolts would also be considered acceptable on the inactive leaf of storage and equipment rooms.

Manual bolt locks are typically located on the egress side of a door and have no operating parts on the other side of the door. Manual bolts are typically installed on the surface of the door panel, or installed flush with the edge or surface of the door.

A dead bolt is manually extended from the egress side of the door by turning a thumb turn, or by manually pushing a button causing spring action to extend the lock bolt. Dead bolts are typically retracted (unlocked) from the egress side of the door by a thumb turn, or operation of the handle or lever. In very limited applications dead bolts may be extended and retracted by use of a key (see IBC Section 1010.2.4 Exception 3). On the ingress side of the door (the access side), dead bolts are typically extended (locked) and retracted (unlocked) by use of a key. Dead bolts are not considered to be manual bolt locks (see the definition for manual bolts).

The image below illustrates two manual bolts, an automatic flush bolt, and a constant latching (flush) bolt.



1 – Manual bolt mounted on the face of the door; the bolt is operated manually.

2 – Manual bolt mounted flush on the door edge; the bolt is projected and retracted manually using a small lever.

3 – Automatic flush bolt installed on the inactive leaf, and projected automatically when the active leaf closes, and retracted when the active leaf opens.

4 – Constant-latching (flush) bolt has a self-latching bolt which is retracted manually.



Dead bolt. Courtesy Allegion

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

This proposal provides updated guidance on “shall be permitted” locking hardware, and is an attempt to bring clarity to the requirements in the IBC.

E43-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved, however the committee felt that cleanup of the language for bolts is needed. In Table 1010.2.4, it is recommended to take out "inactive leaf is not needed to meet egress capacity requirements." Would this be confused with Group I-2 constant latching? (Vote : 10-3)

E43-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1010.2.1, 1010.2.4, Table 1010.2.4 (IFC:[BE] 1010.2.1, 1010.2.4, Table 1010.2.4)

Proponents: John Woestman, representing Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1010.2.1 Unlatching . The unlatching of any door or ~~leaf for egress shall require not more than one motion in~~ leaf for egress shall require not more than one motion in a single linear or rotational direction to release all latching and all ~~locking devices.~~ locking devices. ~~Manual bolt locks bolts~~ are not permitted.

Exceptions:

1. Places of detention or restraint.
- ~~2. Where manual bolt locks are permitted by Section 1010.2.4 Item 4.~~
- ~~3. Doors with automatic flush bolts as permitted by Section 1010.2.4, Item 4.~~
- 2.4. Doors with manual bolts, automatic flush bolts and constant latching bolts as permitted by Section 1010.2.4, Item 4.
- 3.4. Doors from individual dwelling units and sleeping units of Group R occupancies as permitted by Section 1010.2.4, Item 5.

1010.2.4 Locks and latches . Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 3.1. The locking device is readily distinguishable as locked.
 - 3.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
 - 3.3. The use of the key-operated locking device is revocable by the *building official* for due cause.
4. ~~Manual bolt locks bolts, automatic flush bolts, and constant latching bolts~~ on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided the inactive leaf ~~having a manual bolt lock, automatic flush bolt, or constant latching bolt~~ does not have a doorknob, panic hardware, or similar operating hardware.
5. Doors from individual *dwelling* or *sleeping units* of Group R occupancies having an *occupant load* of 10 or less are permitted to be equipped with a night latch, *dead bolt*, *manual bolt*, or security chain, provided such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.
8. Other than egress *courts*, where occupants must egress from an exterior space through the building for *means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
 - 8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
 - 8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
 - 8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
 - 8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m²) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.

- 8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
- 8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m²) or less serving a private office space.

TABLE 1010.2.4 MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS

APPLICATION WHERE A PAIR OF DOORS WITH AN ACTIVE LEAF AND INACTIVE LEAF SERVE THE FOLLOWING:	OCCUPANT LOAD OF SPACE SERVED BY THE PAIR OF DOORS	THE PAIR OF DOORS ARE REQUIRED TO COMPLY WITH SECTION 716	PERMITTED USES OF MANUAL BOLT LOCKS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS:		
			Manual flush bolts or manual surface bolts with manual extension and retraction of bolt.	Automatic flush bolts with automatic extension and retraction of bolt by action of active leaf.	Constant latching bolts with automatic latching and manual retraction of bolt or latch.
Group B, F, or S occupancy.	Less than 50	NO	P	P	P
		YES	NP	P ^b	P
Group B, F, or S occupancies where the building is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1, and where the inactive leaf is not needed to meet egress capacity requirements.	Occupant load served by the active leaf.	NO	P	P	P
		YES	NP	P ^b	P
Patient care rooms in Group I-2 occupancies, and where the inactive leaf is not needed to meet egress capacity requirements.	Occupant load served by the active leaf.	NO	NP	P ^b	P
		YES	NP	P ^b	P
Occupancies where panic hardware is not required, the egress doors are used in pairs, and where both the active and inactive leaves are required to meet egress capacity requirements.	Occupant load served by both leaves.	NO	NP	P	NP
		YES	NP	P ^b	NP
Storage or equipment rooms.	Occupant load served by the active leaf.	NO	P ^a	P	P
		YES	P ^a	P	P

P—Permitted; NP—Not permitted.

- a. Not permitted in Group I-2 where corridor doors are required to be positive latching, and the storage or equipment room door is in the corridor.
- b. Permitted where both doors are self-closing or automatic-closing, and have a coordinator that causes the inactive leaf to be closed prior to the active leaf.

TABLE 1010.2.4
MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF
OF A PAIR OF DOORS

APPLICATION WITH A PAIR OF DOORS WITH AN ACTIVE LEAF AND INACTIVE LEAF	THE PAIR OF DOORS ARE REQUIRED TO COMPLY WITH SECTION 716	PERMITTED USES OF MANUAL BOLTS, AUTOMATIC FLUSH BOLTS, AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS.		
		Surface or flush mounted manual bolts	Automatic flush bolts	Constant latching bolts
Group B, F, or S occupancies with occupant load less than 50.	No	P	P	P
	Yes	NP	NP ^b	P
Group B, F, or S occupancies where the building is equipped with automatic sprinkler system in accordance with Section 903.3.1.1 and the inactive leaf is not needed to meet egress capacity requirements.	No	P	P	P
	Yes	NP	NP ^b	P
Group I-2 patient care and sleeping rooms where inactive leaf is not needed to meet egress capacity requirements.	No	NP	NP ^b	P
	Yes	NP	NP ^b	P
Any occupancy where panic hardware is not required, egress doors are used in pairs, and where both leaves are required to meet egress capacity requirements.	No	NP	P	NP
	Yes	NP	NP ^b	NP
Storage or equipment rooms where the inactive leaf is not needed to meet egress capacity requirements.	No	P ^a	P	P
	Yes	P ^a	P	P

P - Permitted; NP - Not permitted.

- a. Not permitted on corridor doors in Group I-2 occupancies where corridor doors are required to be positive latching.
- b. Permitted where both doors are self-closing or automatic-closing, and are provided with a coordinator that causes the inactive leaf to be closed prior to the active leaf.

Commenter's Reason: This public comment proposes in 1010.2.1, revisions to combine Exception 2 with Exception 3. And revisions in 1010.2.1 and 1010.2.4 for consistent use of the proposed defined term "manual bolt".

This public comment also deletes and replaces proposed Table 1010.2.4 with a simpler table with minor revisions:

1. The left two columns of the originally proposed Table 1010.2.4 were combined into a single column to remove redundant text.
2. Also, where footnote "b" is used in the 2nd column from the right, the "P^b" was revised to "NP^b" for consistency with how footnote "a" is used in the table.
3. Editing of column and row headings for simplicity and better consistency with the proposed definitions and text.

During the committee action hearing, there was discussion that manual bolts (manual bolt locks) may not be permitted by the proposed revisions as they are currently permitted by the IBC (e.g. on a single door). An explanation of how the proposal permit manual bolts:

1. The proposal deletes, from 1010.2.5, the current prohibition of manually operated flush bolts and surface bolts, and inserts this prohibition with minor revisions in 1010.2.1 stating "*Manual bolt* locks are not permitted.
2. However, there are three (was four) exceptions to 1010.2.1.
 - a. Exception 2 (was Exception 3), for individual dwelling units and sleeping units of Group R occupancies, sends the reader to Section 1010.2.4 Item 5.
 - b. Item 5 of 1010.2.4 permits installation of a night latch, dead bolt, or security chains on doors from individual dwelling units or sleeping units of Group R occupancies having an occupant load of 10 or less. This proposal, E43-21, adds "manual bolt" to this list of hardware items (see the original E43-21 proposal as Item 5 is not proposed for revisions with this public comment).
 - c. The net effect is manual bolts would be permitted on doors from individual dwelling units or sleeping units of Group R occupancies with an

occupant load of 10 or less in the same applications where a dead bolt or night latch have been permitted.

d. Note the 2021 IBC in 1010.2.5 permits manually operated flush bolts or surface bolts on doors not required for egress in individual dwelling units or sleeping units. The revisions in this proposal permit manual bolts on doors – not required, or required, for egress – in individual dwelling units.

3. Note: The proposed definition for manual bolts indicates manual bolts can be either flush or surface mounted.

Also during the CAH, there was discussion about permitting / not permitting manual bolts, automatic flush bolts, and constant latching bolts on doors in the means of egress per proposed Table 1010.2.4. Perhaps an explanation of where the provisions in proposed Table 1010.2.4 came from may be helpful.

1. Item 4 in 1010.2.4 (revised in E43-21) permits manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with (proposed) Table 1010.2.4 provided the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.

a. Do note Item 4 applies only to the inactive leaf of a pair of doors.

2. Proposed Table 1010.2.4, in the title of the table and in the heading of the right three columns, identifies the permitted uses of manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors.

3. In proposed Table 1010.2.4,

a. Starting with the right-hand column of Table 1010.2.4, constant latching bolts, which have automatic latching and manual retraction of the bolt or latch, are proposed to be permitted:

i. On the inactive leaf where that inactive leaf is not required for egress capacity in B, F, and S occupancy groups (see deleted Exception 4 of Section 1010.2.5).

ii. On the inactive leaf of group I-2 patient care room doors (see deleted Exception 5 of Section 1010.2.5).

iii. On the inactive leaf of storage and equipment room doors where the occupant load is served by the active leaf (see deleted Exception 2 of Section 1010.2.5 – constant latching bolts release manually similar to manual bolts).

b. Automatic flush bolts, which are installed on the inactive leaf have automatic extension and have automatic retraction of the bolt by action of the active leaf, are proposed to be permitted

i. On the inactive leaf of a pair of doors in B, F, and S occupancy groups where the doors are not required to comply with IBC Section 716 for opening protectives (see deleted Exception 4 of Section 1010.2.5).

ii. For doors required to comply with 716 which are required elsewhere in the IBC to be positive latching, automatic flush bolts are not permitted on the inactive leaf unless the pair of doors meet the requirements of proposed footnote “b” requiring a coordinator to ensure the inactive leaf is closed prior to the active leaf.

iii. On doors to I-2 patient care rooms where the inactive leaf is not needed for egress capacity (see deleted Exception 4 of Section 1010.2.5).

iv. For storage or equipment rooms, wherever a manual bolt would be permitted on the inactive leaf, an automatic flush bolt should also be permitted (see deleted Exception 2 of Section 1010.2.5).

c. Surface or flush mounted manual bolts are permitted

i. On the inactive leaf in B, F, and S occupancy groups only where the inactive leaf is not needed for egress capacity (see deleted Exception 4 of Section 1010.2.5).

ii. On the inactive leaf of storage and equipment room doors where the occupant load is served by the active leaf (see deleted Exception 2 of Section 1010.2.5).

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This proposal provides updated guidance on “shall be permitted” locking hardware, and is an attempt to bring clarity to the requirements in the IBC.

Proposed Change as Submitted

Proponents: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Assoc. (BHMA)
(jwoestman@kellencompany.com)

2021 International Building Code

Revise as follows:

1010.2.4 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main ~~door or~~ doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 3.1. The doors are the main exterior doors to the building, or the doors are the main doors to the tenant space.
 - ~~3.2.1.~~ The locking device is readily distinguishable as locked.
 - ~~3.3.2.~~ A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
 - ~~3.4.3.~~ The use of the key-operated locking device is revocable by the *building official* for due cause.
4. Where egress doors are used in pairs, *approved* automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.
5. Doors from individual *dwelling or sleeping units* of Group R occupancies having an *occupant load* of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are operable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.
8. Other than egress *courts*, where occupants must egress from an exterior space through the building for *means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
 - 8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
 - 8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
 - 8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
 - 8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m²) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
 - 8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
 - 8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m²) or less serving a private office space.

Reason: What is now Item 3 in 2021 IBC Section 1010.2.4 permits doors to be locked not allowing ingress or egress from certain occupancies while the space is not occupied. Item 3 was revised per proposal E63-12 to recognize the main doors to a space may not be exterior doors – for example doors to a tenant space from an indoor shopping mall corridor. Unfortunately, removing the word “exterior” in what is now Item 3 has resulted in BHMA members seeing interpretations that the “main doors” can be just about any door to a space within a building. Our understanding is that this

broad interpretation and application of the provisions in Item 3 are not as intended with the revisions approved in proposal. This proposal attempts to clarify Item 3 is limited to the main exterior doors a space, or the main doors to the tenant space

Cost Impact: The code change proposal will increase the cost of construction

The code proposal may increase the cost of construction if doors which were capable of being locked with a key-operated lock on the egress side would not be permitted to be locked, and a different, higher cost, lock was needed. On the other hand, this proposal may decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease slightly.

E45-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved. The proposed text as written appears to not be applicable to spaces with one means of egress. There was a question as to if there could be more than one door in the path of egress travel - from the tenant and then again from the building. (Vote: 9-4)

E45-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1010.2.4 (IFC:[BE]1010.2.4)

Proponents: John Woestman, representing Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1010.2.4 Locks and latches . Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 3.1. The doors are the main exterior doors to the building, or the doors are the main doors to the tenant space.
 - 3.2. The locking device is readily distinguishable as locked.
 - 3.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
 - 3.4. The use of the key-operated locking device is revocable by the *building official* for due cause.
4. Where egress doors are used in pairs, *approved* automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.
5. Doors from individual *dwelling or sleeping units* of Group R occupancies having an *occupant load* of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.

8. Other than egress *courts*, where occupants must egress from an exterior space through the building for *means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
 - 8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
 - 8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
 - 8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
 - 8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m²) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
 - 8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
 - 8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m²) or less serving a private office space.

Commenter's Reason: Item 3 in 1010.2.4 permits the main doors of a space to be locked with a key operated lock preventing egress (and ingress) when locked. Traditionally, this provision was applied to the main exterior doors to a business or restaurant, and the main doors would be locked all times other than business hours. Employees of the business or restaurant would know to enter or leave by one of the other doors, or a few employees would have the key needed to unlock the doors for egress.

Prior to the 2015 IBC, the applicability of Item 3 was limited to the **main exterior doors** of a building for the listed occupancies. And, the sign required by this section stated: THIS DOOR TO REMAIN UNLOCKED WHEN **THIS BUILDING** IS OCCUPIED.

However, for the 2015 IBC, proposal E63-12, as modified by the committee, revised item 3 to be applicable to the **main doors** to a space for the same listed occupancies. And, the sign required by this section stated: THIS DOOR TO REMAIN UNLOCKED WHEN **THIS SPACE** IS OCCUPIED. The proponent's intent of E63-12 was to permit the provisions of Item 3 to be applicable to, for example, where the main doors to a restaurant open into a mall.

Unfortunately, over the last several years, we have been observing that Item 3 is being interpreted as broadly as written: any doors that could be described as the main doors, to any space in the listed occupancies, regardless of the size or use of the space and regardless of how far into the bowels of the building, could be locked with a key operated lock preventing ingress **and / or egress**.

This proposal is intended to bring the scope of the applicability of Item 3 to be more closely aligned to the proponents stated intent of E63-12. Item 3 would be applicable to the **main exterior doors to the building**, or the doors are the **main doors to the tenant space**.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction

This code proposal may increase the cost of construction if doors which were capable of being locked with a key-operated lock on the egress side would not be permitted to be locked, and a different, higher cost lock was needed. On the other hand, this proposal may decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease.

Public Comment# 2793

Proposed Change as Submitted

Proponents: John Woestman, Kellen Company, representing Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com)

2021 International Building Code

Add new text as follows:

1010.2.10 Access control door locking systems.

Where electrical door locking systems that prevent or control ingress to a space are incorporated in a locking system of a door in the means of egress, the locking system shall comply with Section 1010.2.12, 1010.2.13, 1010.2.14, 1010.2.15, or 1010.2.16, or shall be readily openable from the egress side without the use of a key or special knowledge or effort.

Reason: Modeled from and similar to current 2021 IBC Section 1010.2.10 Monitored or recorded egress, this proposed section describes how access control systems – ingress control systems – may be incorporated into the locking system of a door in the means of egress.

This proposed section of the IBC is technically not necessary in the IBC as the IBC is essentially silent regarding requirements for ingress control systems (access control systems). In other words, what is not prohibited by the code is, by default, permitted.

However, BHMA members are being drawn into conversations and debates with code officials as to what section(s) of the IBC with requirements for door locking arrangements are applicable to electrical locking systems which control or prevent **ingress** to a space (access control systems). This proposed new section is intended to prevent these debates by requiring doors in the means of egress which incorporate ingress control systems (access control systems) to require, on the egress side of the door, the door to be readily openable without the use of a key or special knowledge or effort, or comply with any one of the “shall be permitted” electrical locking systems.

FYI: with relatively few exceptions, the code does not regulate ingress control / access control into a building or room. For most doors, the building owner / occupant can do as desired regarding ingress control (access control) as long as all the requirements for egress are satisfied. The code does have requirements for stairway re-entry into the building (IBC Section 1010.2.7 Stairway doors), for authorized personnel access into locked occupied rooms (IBC Section 1010.2.8 Locking arrangements in educational occupancies), and for access to pools (IBC Section 1010.2.3, and ISPSC).

Cost Impact: The code change proposal will increase the cost of construction

This proposal would not increase the cost of construction as ingress control systems are not required by the IBC.

E49-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because Chapter 10 is for means of egress and this proposal is about entering, not exiting. (Vote: 11-3)

E49-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1010.2.10 (IFC:[BE]1010.2.10)

Proponents: John Woestman, representing Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

1010.2.10 Monitored or recorded egress, and access control systems . Where electrical systems that monitor or record egress activity are incorporated, or where the door has an access control system, the locking system on the egress side of the door shall comply with Section 1010.2.11, 1010.2.12, 1010.2.13, 1010.2.14 or 1010.2.15 or shall be readily openable from the egress side without the use of a key or special knowledge or effort.

Commenter's Reason: The proposed revisions to 2021 IBC Section 1010.2.10 adds access control systems to this section of the code, and how monitored egress systems and access control systems must "play nice" with door hardware and locking systems on the egress side of a door in the means of egress.

The proposed revisions address doors which incorporate access control systems to require, on the egress side, the door to be readily openable without the use of a key or special knowledge or effort, or comply with any one of the "shall be permitted" electrical locking systems of 1010.2.11, 1010.2.12, 1010.2.13, 1010.2.14 or 1010.2.15.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. Since access control systems are not required by the code, this proposal would not be expected to increase the cost of construction.

Public Comment# 2806

Proposed Change as Submitted

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

2021 International Building Code

Add new definition as follows:

CONTROL VESTIBULE. A space with doors in series such that when one door is open the other door is interlocked and cannot be opened.

Add new text as follows:

1010.2.15 Control vestibule.

Control vestibules shall be permitted for security, clinical needs or environmental control in Groups F, H-5, and S and in Groups B, I-1, I-2, and M where the occupant load of the room or space served by the control vestibule is less than 50. Where doors in the means of egress are configured as a control vestibule, the control vestibule door locking system shall provide for egress. The control vestibule shall comply with all of the following:

1. On the egress side of each door of the control vestibule, an approved override shall be provided which deactivates the interlock of the door when that door is interlocked. Signage shall be provided with instructions on the use of the override.
2. Where an automatic sprinkler system or automatic fire detection system is provided, upon activation of such system the interlock function of the door locking system of the control vestibule shall deactivate.
3. Upon loss of power to the interlock function of the doors, the interlock function of the door locking system of the control vestibule shall deactivate.
4. The egress path from any point shall not pass through more than one control vestibule.
5. The control vestibule door interlocking system units shall be listed in accordance with UL 294.

Reason: This proposal includes a definition for “control vestibule” and offers detailed requirements for control vestibules. This vestibule system controls egress temporarily. One door must be closed for the other to open.

Control vestibules – which have doors in series which are interlocked – are being incorporated in the means of egress in a variety of occupancies. The IBC is currently silent regarding requirements and guidance for control vestibules. This proposal offers requirements (guidance) for control vestibules in the means of egress.

The significant difference between typical doors in series in the means of egress (i.e. one after the other) and doors in the means of egress configured as a control vestibule is the doors of a control vestibule are interlocked such that when one door of a control vestibule is open, the other door in series in the control vestibule is temporarily locked; and conversely, in the means of egress when all doors of a control vestibule are closed, any door may be opened.

Control vestibules are most commonly configured as a space with two doors in series. But, some control vestibules are configured with more than one inner door and / or more than one outer door. For example, where a control vestibule is required to help keep clean rooms clean, there may be inner doors from three different clean rooms opening into the control vestibule, and one outer door for leaving the control vestibule in the direction of egress.

It should be noted that control vestibules on the access (ingress) side of doors controlling access into a building or into a space within a building are more common than control vestibules on the egress side of doors controlling egress from a space or from a building. Requirements for access-side control vestibules is outside the scope of the IBC. Thus access-side control vestibules are not regulated or prohibited by the IBC provided all requirements for egress are complied with. This proposal addresses control vestibules in the means of egress addressing egress-side requirements.

Also, it should be noted that control vestibules may be “stacked” or combined with any of the other “shall be permitted” electrical locking arrangements of the IBC (2021 IBC sections 1010.2.11 through 1010.2.14). For example, assume both doors in the (air lock) control vestibule from an electronics manufacturing clean room are equipped with sensor release of electrically locked egress doors (IBC Section 1010.2.12) to allow no-touch exiting from the clean room through the (air-lock) control vestibule. The electrical locks on the two doors of the (air lock) control vestibule would be interlocked such that only one door is able to be open at a time. In the event of fire in the clean room, Item 2 requires the interlock function of the control vestibule to be deactivated, facilitating egress through the control vestibule with both doors open at the same time.

The proposed requirements for control vestibules are for these reasons:

Control vestibules are recommended to be permitted in the listed occupancy groups: Group B for banks and laboratories. Group F for factories.

Group H for operations where contamination or atmospheric control is vital. Groups I-1 and I-2 to facilitate patient care and patient security. Group M for sales rooms for jewelry, gems, drugs, and similar highly valuable items. Group S for storage of valuables.

This proposal has no limits on occupant loads for a factory – access to factories is limited to employees, or visitors escorted by employees. Similar situation for H-5. And for storage, especially large storage areas, the calculated occupant load may be significant although the actual quantity of occupants is typically limited (i.e. employees). The other Groups – the proposed less than 50 occupant load is to be consistent with requirements for panic hardware on doors in the means of egress (occupant loads of 50 or more require panic hardware).

Control vestibules must provide for egress – which is a requirement in the charging language.

The last sentence in the charging language provides needed flexibility. For example, where casinos count money, accepted industry practices may not incorporate all of the requirements of Items 1 through 5 but may incorporate significant other security and safety provisions.

Item 1: A requirement to address the potential situation where one of the doors on the control vestibule is held open (example: a person holds the outer doorway open and other occupants need to be able to egress through the control vestibule in an emergency situation). This item requires, on the egress side of each door of the control vestibule, installation of an approved override which deactivates the interlock on that door. It is common the activation of an override would set off an alarm, and / or the activation of an override without a valid reason results in disciplinary action (i.e. employee gets fired). This item also requires signage with instruction on how to use the override.

Items 2 and 3: Requires the interlock function to be disabled in the event of fire, actuation of the fire detection system, or power loss to the interlock system renders the control vestibule equivalent to two doors in the means of egress allowing unobstructed egress.

Item 4: Requires that egressing through the control vestibule involves no more than two doors. While not common, there are situations where more than one control vestibule may be needed in the means of egress.

Item 5: Requires the units of the control vestibule locking system to be listed in accordance with UL 294, the same standard required for units for other electrical locking system units.

Together, the definition and proposed requirements provide for egress and emergency egress where control vestibules are installed.

Note: a control vestibule is different than a sallyport, which is defined in the IBC and permitted in Group I-3 occupancies. Group I-3 includes correction centers, detention centers, jails, prisons, and similar uses. A sallyport is a security vestibule which prevents unobstructed passage. A control vestibule is intended to allow unobstructed passage, but prevents more than one door of doors in series to be open at the same time.

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 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 BCAC.

Cost Impact: The code change proposal will increase the cost of construction

Control vestibules are currently not addressed in the code. Where control vestibules are constructed, these requirements may include some locking requirements and interconnectedness currently not incorporated into some control vestibules.

E55-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved. The intent is good and is needed but there were still several questions. What is the maximum size of the vestibule? Is self closing needed on the doors for the exiting? What is the duration of the over ride? Would this be a hazard if used for areas with large occupant loads? (Vote: 13-1)

Individual Consideration Agenda

Public Comment 1:

IBC: 1010.2.15 (IFC:[BE]1010.2.15)

Proponents: Mike Nugent, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1010.2.15 Control vestibule . Control vestibules shall be permitted for security, clinical needs or environmental control in Groups F, H-5, and S and in Groups B, I-1, and I-2, and M where the occupant load of the room or space served by the control vestibule is less than 50, and in Group B and M where the occupant load of the room or space served by the control vestibule is 10 or less. Where doors in the means of egress are configured as a control vestibule, the control vestibule door ~~locking~~ interlocking system shall provide for egress. The control vestibule shall comply with all of the following:

1. On the egress side of each door of the control vestibule, an approved override shall be provided which deactivates the interlock of the door when that door is interlocked. Signage shall be provided with instructions on the use of the override.
2. Where an automatic sprinkler system or automatic fire detection system is provided, upon activation of such system the interlock function of the door locking system of the control vestibule shall deactivate.
3. Upon loss of power to the interlock function of the doors, the interlock function of the door locking system of the control vestibule shall deactivate.
4. The egress path from any point shall not pass through more than one control vestibule.
5. The control vestibule door interlocking system units shall be listed in accordance with UL 294.

Commenter's Reason: A wide variety of questions and suggestions were shared during the CAH and are addressed by this public comment. Concerns were raised regarding occupancy groups B and M with a maximum occupant load of 50 – the proposed revision to a maximum occupant load of 10 or less in B and M occupancies is based on IBC 1010.1.2 that permits doors other than side-hinged swinging doors for occupant loads of 10 or less.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. Control vestibules are currently not addressed in the code. Where control vestibules are constructed, these requirements may include some locking requirements and interconnectedness currently not incorporated into some control vestibules.

Public Comment# 2803

Public Comment 2:

IBC: 1010.2.15 (IFC:[BE]1010.2.15)

Proponents: John Williams, representing Healthcare Committee (ahc@iccsafe.org); Mike Nugent, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1010.2.15 Control vestibule. Control vestibules shall be permitted for security, clinical needs or environmental control in Groups F, H-5, and S and in Groups B, I-1, I-2, and M where the occupant load of the room or space served by the control vestibule is less than 50. Where doors in the means of egress are configured as a control vestibule, the control vestibule door interlocking ~~locking~~ system shall provide for egress. The control vestibule shall comply with all of the following:

1. On the egress side of each door of the control vestibule, an approved override shall be provided which deactivates the interlock of the door when that door is interlocked. The override switch shall be within 48 inches (1219 mm) of the door and between 34 inches (864 mm) and 48 inches (1219 mm) above the floor. Signage shall be provided with instructions on the use of the override.

2. Where an automatic sprinkler system or automatic ~~fire-smoke~~ detection system is provided, upon activation of such system the interlock function of the ~~door locking system doors~~ of the control vestibule shall deactivate.
3. Upon loss of power to the interlock function of the doors, the interlock function of the door locking system of the control vestibule shall deactivate.
4. The egress path from any point shall not pass through more than one control vestibule.
5. The doors of the control vestibule shall be self-closing.
6. The doors of the control vestibule shall swing in the direction of egress travel.
Exception: Power-operated doors in accordance with Section 1010.3.2.
- 5.7. The control vestibule door interlocking system units electro-mechanical or electromagnetic locking devices shall be listed in accordance with either UL 294 or UL 1034.

Commenter's Reason: A wide variety of questions and suggestions were shared during the CAH and are addressed by this public comment. In Item 1, the committee questioned if the location of the override switch should be specified – the proposed revision is from the IBC requirement for emergency stop switches for revolving doors (1010.3.1 item 5). In Item 2, the revisions address concerns raised prior to the CAH regarding the detection system.

The added Items 5 and 6 address committee concerns and questions. The proposed exception to Item 6 is important for control vestibules where the doors need to operate without touching, which may be important in numerous applications including health care.

In Item 7 (was item 5), the proposed revisions are consistent with E52-21 approved as submitted during the CAH, which revised the UL standard reference.

The committee suggested it may be desirable to specify how long the override in Item 1 overrides the interlock function of the doors in the control vestibule. Considering an override switch is required on the egress side of each door of the control vestibule, it was felt it was not necessary to specify a minimum or maximum duration the interlock is disabled upon pushing an override button.

The committee wondered if the minimum or maximum size of the control vestibule should be specified. Considering a control vestibule would be required to comply with accessibility requirements if on an accessible route, it was felt a minimum size would not need to be specified. And, considering that larger rooms take up more space and cost more to construct, and that a control vestibule would be included in the determination of travel distance, it was felt the maximum size of a control vestibule would not need to be specified.

Examples of patient care facilities that utilize secured vestibules include Behavioral Health settings, where a patient is admitted against their will and whose treatment is the responsibility of the healthcare provider. Another is a post-partum unit, where control vestibules are utilized to combat infant abduction. This arrangement is typically used at the primary entry to the unit and not secondary exits, where other locking arrangements are utilized. The primary entry points represent the most occupant traffic, and therefore the higher risk of elopement.

This public comment is submitted by the ICC Building Code Action Committee (BCAC) 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 BCAC.

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 the CHC held several virtual meeting, which included members 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 CHC.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. Control vestibules are currently not addressed in the code. Where control vestibules are constructed, these requirements may include some locking requirements and interconnectedness currently not incorporated into some control vestibules.

Public Comment# 2574

Public Comment 3:

Proponents: John Williams, representing Healthcare Committee (ahc@iccsafe.org); Mike Nugent, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1010.2.15 Control vestibule . Control vestibules shall be permitted for security, clinical needs or environmental control in Groups F, H-5, and S and in Groups B, I-1, I-2, and M where the occupant load of the room or space served by the control vestibule is less than 50. Control vestibules shall be permitted only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. or an approved automatic smoke detection system installed in the room or space served by the control vestibule in accordance with Section 907. Where doors in the means of egress are configured as a control vestibule, the control vestibule door ~~locking-interlocking~~ system shall provide for egress. The control vestibule shall comply with all of the following:

1. On the egress side of each door of the control vestibule, an approved override shall be provided which deactivates the interlock of the door when that door is interlocked. Signage shall be provided with instructions on the use of the override.
2. ~~Where~~ Upon activation of the an automatic sprinkler system or automatic fire smoke detection system ~~is provided, upon activation of such system~~ the interlock function of the ~~door locking system~~ doors of the control vestibule shall deactivate.
3. Upon loss of power to the interlock function of the doors, the interlock function of the door locking system of the control vestibule shall deactivate.
4. The egress path from any point shall not pass through more than one control vestibule.
5. The control vestibule door interlocking system units shall be listed in accordance with UL 294.

Commenter's Reason: Concerns were raised during the CAH, and subsequent to the CAH, regarding permitting control vestibules in buildings which did not have either a fire sprinkler system or smoke detection system. This public comment attempts to address those concerns by permitting control vestibules only in buildings with an automatic sprinkler system or an automatic smoke detection system.

This public comment may be a compromise between applications for control vestibules in quite small buildings with occupants familiar with the space where an automatic sprinkler system would not otherwise be required for the building and applications of control vestibules serving more occupants where requiring the building to have a fire sprinkler system throughout is prudent.

For hospital settings, full sprinklering is required in new construction, and smoke detection is often utilized in healthcare suites, where this arrangement is typically used.

This public comment is submitted by the ICC Building Code Action Committee (BCAC) 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 BCAC.

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 the CHC held several virtual meeting, which included members 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 CHC.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction

Control vestibules are currently not addressed in the code. Where control vestibules are constructed, these requirements may include some locking requirements and interconnectedness currently not incorporated into some control vestibules.

Public Comment# 2579

Public Comment 4:

IBC: 1010.2.15 (IFC:[BE]1010.2.15)

Proponents: John Williams, representing Healthcare Committee (ahc@iccsafe.org); Mike Nugent, representing ICC Building Code Action

Modify as follows:

2021 International Building Code

1010.2.15 Control vestibule . Control vestibules shall be permitted for security, clinical needs or environmental control in Groups F, H-5, and S and in Groups B, I-1, I-2, and M where the occupant load of the room or space served by the control vestibule is less than 50. Where doors in the means of egress are configured as a control vestibule, the control vestibule door locking system shall provide for egress. The control vestibule shall comply with all of the following:

1. On the egress side of each door of the control vestibule, an approved override shall be provided which deactivates the interlock of the door when that door is interlocked. Signage shall be provided with instructions on the use of the override.

Exception: Where approved by the building official, overrides are not required where the control vestibule is designed for security reasons to impede occupant egress.

2. Where an automatic sprinkler system or automatic fire detection system is provided, upon activation of such system the interlock function of the door locking system of the control vestibule shall deactivate.
3. Upon loss of power to the interlock function of the doors, the interlock function of the door locking system of the control vestibule shall deactivate.
4. The egress path from any point shall not pass through more than one control vestibule.
5. The control vestibule door interlocking system units shall be listed in accordance with UL 294.

Commenter's Reason: During the Committee Action Hearings there was discussion that the override switches required in Item 1 would not be appropriate where the control vestibule is needed and designed for security reasons. This public comment presents that option with a proposed exception. The code official could request the override to be located in a supervised location as part of that approval.

For hospital settings, and per the already established requirements to allow special locking arrangements in behavioral health and infant settings, all staff are equipped with keys and access to allow egress. The use of remote release of the locks represents a vulnerability that this locking arrangement is designed to eliminate for safe care of these particularly vulnerable patients.

This public comment is submitted by the ICC Building Code Action Committee (BCAC) 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 BCAC.

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 the CHC held several virtual meeting, which included members 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 CHC.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction

Control vestibules are currently not addressed in the code. Where control vestibules are constructed, these requirements may include some locking requirements and interconnectedness currently not incorporated into some control vestibules.

Proposed Change as Submitted

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com); Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

2021 International Building Code

Revise as follows:

1011.5.2 Riser height and tread depth. *Stair* riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the *nosings* of adjacent treads or between the *stairway* landing and the adjacent tread. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's *nosing*. *Winder* treads shall have a minimum tread depth of 11 inches (279 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

Exceptions:

1. *Spiral stairways* in accordance with Section 1011.10.
2. *Stairways* connecting stepped *aisles* to cross *aisles* or concourses shall be permitted to use the riser/tread dimension in Section 1030.14.2.
3. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies not required by Chapter 11 to be Accessible or Type A dwelling or sleeping units; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; the maximum riser height shall be 7³/₄ inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum *winder* tread depth at the walkline shall be 10 inches (254 mm); and the minimum *winder* tread depth shall be 6 inches (152 mm). A *nosing* projection not less than ³/₄ inch (19.1 mm) but not more than 1¹/₄ inches (32 mm) shall be provided on *stairways* with solid risers where the tread depth is less than 11 inches (279 mm).
4. See Section 503.1 of the International Existing Building Code for the replacement of existing *stairways*.
5. In Group I-3 facilities, *stairways* providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m²) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).

Reason: The 2010 ADA Standards, the Uniform Federal Accessibility Standards, and the Architectural Barriers Act (ABA) Accessibility Standard all require all stairs that are a part of a means of egress in accessible buildings and facilities to comply with provisions for stair geometry that are the same as those in the main paragraph of Section 1011.5.2. There is no exception in these documents for stairs within dwelling units or sleeping units that must be accessible. .

Cost Impact: The code change proposal will increase the cost of construction

This code change will increase costs where Accessible or Type A dwelling or sleeping units are required by the code, but are not also required by Federal laws such as, the Americans with Disabilities Act, the Architectural Barriers Act, or Section 504 of the Rehabilitation Act of 1973, as amended.

E60-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because stairways are never part of an accessible route, therefore, there should not be different requirements for stairways within Accessible or Type A units. (Vote: 14-0)

E60-21

Individual Consideration Agenda

Public Comment :

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com) requests As Submitted

Commenter's Reason: The Committee disapproved this proposal because "stairways are never part of an accessible route" and "therefore, there should not be different requirements for stairways within Accessible or Type A units."

- **Federal Rules:** The committee correctly recognized that stairs are not part of an accessible route. However, the Federal ADA requirements (see bibliography) regarding what the IBC calls "Accessible" and "Type A" units require all stairs that are part of a means of egress to comply with the 7/11 stair geometry.
- **Stairs used for egress:** While not all people with mobility disabilities can use stairs, some can, particularly in an emergency. There are many reasons why anyone, particularly a person with a mobility disability might be better off not using the dwelling unit elevator, even if it is working, during an evacuation.
- **No opposition:** During the hearing, the Stairway Manufacturers agreed with this interpretation and there was no opposition.
- **Flats recognized as equivalent:** Nothing in the IBC, the ICC A117.1, or the ADA requires Accessible and Type A dwelling units to be multistory units. In fact, the ADA clearly recognizes single-story units to be equivalent to multi-story units provided they have the same living spaces.

Bibliography: 2010 ADA Standards (<https://www.access-board.gov/ada/#ada-210>). Section 210.1 requires the following: "210.1 Stairways. Interior and exterior stairs that are part of a means of egress shall comply with 504".

2010 ADA Standards Section 504.2 (<https://www.access-board.gov/ada/#ada-504>). Section 504.2 requires the following: "All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum."

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. Because there is no requirement for multistory Accessible or Type A units, any cost impact related to making the stairs accessible can be attributed to a design choice - the choice to design a multi-story unit instead of a flat unit.

Public Comment# 2542

Proposed Change as Submitted

Proponents: David Cooper, representing Stairbuilders and Manufacturers Association (Coderep@stairways.org)

2021 International Building Code

Revise as follows:

1011.5.2 Riser height and tread depth. *Stair* riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the *nosings* of adjacent treads or between the *stairway* landing and the adjacent tread. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's *nosing*. *Winder* treads shall have a minimum tread depth of 11 inches (279 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

Exceptions:

1. *Spiral stairways* in accordance with Section 1011.10.
2. *Stairways* connecting stepped *aisles* to cross *aisles* or concourses shall be permitted to use the riser/tread dimension in Section 1030.14.2.
3. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; the maximum riser height shall be 7¾ inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum *winder* tread depth at the walkline shall be 10 inches (254 mm); and the minimum *winder* tread depth shall be 6 inches (152 mm). ~~A nosing projection not less than ¾ inch (19.1 mm) but not more than 1¾ inches (32 mm) shall be provided on stairways with solid risers where the tread depth is less than 11 inches (279 mm).~~
4. See Section 503.1 of the International Existing Building Code for the replacement of existing *stairways*.
5. In Group I-3 facilities, *stairways* providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m²) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).

1011.5.5.1 Nosing projection size. ~~The leading edge (*nosings*)~~ nosing of treads shall project not more than 1¼ inches (32 mm) ~~beyond over the tread below. The maximum nosing projection shall not be limited on stairways with open risers. A nosing projection not less than ¾ inch (19.1 mm) but not more than 1 ¼ inches (32 mm) shall be provided on stairways where the tread depth is less than 11 inches (279 mm).~~

Reason: Nosing projection regardless of size does not increase or decrease the unit run, or tread depth dimension. As stated in the code the required tread depth is measured horizontally between the nosings of adjacent treads. Currently the requirement for a nosing projection and its size is buried within an exception to tread depth for only residential stairs. This proposal appropriately moves the misplaced requirement to **1011.5.5.1 Nosing projection size**, and will now address the size of the nosing projection as well as the maximum nosing projection and shall apply to all stairs not just certain residential stairs. All steps with or without solid risers benefit from a nosing projection in descent. Nosing projections are essential in descent to allow the user to advance the forefoot further from the tread above as the leading foot points downward to find purchase on the tread below providing clearance for the heel as it lowers in an arc onto the walking surface. The IBC Commentary describes it like this: "A nosing projection allows the descending foot to be placed farther forward on the tread and the heel to then clear the nosing of the tread above as it swings down in an arc, landing on a tread that is effectively deeper than if no nosing projection is used. **Nosing projections are so common in stair design that they are usually only noticed by users where they are absent since the lack of nose projection can affect one's gait.**" (emphasis added)

Nosing projections are required in the IRC and should also be required for all stairways with tread depths less than 11 inches not just those in dwelling units that are allowed in the IBC. Currently the code does not require a nosing projection on open riser stairs. This change will require a nosing projection on open riser stairs but will not limit the maximum nosing projection at open risers. A maximum nosing projection limit where the riser is open does nothing to eliminate the potential of the forefoot extending under the tread above in ascent. A maximum nosing projection on an open riser stair would also frequently complicate enforcement at the lowest step of a flight where it overlaps a floor landing that is usually located independent of the stairway design.

Cost Impact: The code change proposal will increase the cost of construction

The code change proposal may increase the cost of construction for some stairs. Although the required nosing projection for residential has not changed, this may change the cost of stairs in I-3 facilities requiring a tread about an inch wider. However, tread materials are manufactured to accommodate the currently required nosing projection at treads on stairs with less than 11 inch tread depth and are readily available. The minimal material increase per tread would vary based upon the material used and the width of the stair/length of the tread. No increase in labor would be

required.

Staff note: Proposals E61-21, E63-21 and E64-21 addresses requirements for nosing in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E61-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the proposed language would conflict with winder treads. The committee preferred the language in E64-21. (Vote: 13-1)

Staff Analysis: Proposals E61-21, E63-21 and E64-21 addresses requirements for nosing in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E61-21

Individual Consideration Agenda

Public Comment :

IBC: 1011.5.5.1 (IFC:[BE] 1011.5.5.1)

Proponents: David Cooper, representing Stairbuilders and Manufacturers Association (coderep@stairways.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1011.5.2 Riser height and tread depth . *Stair* riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the *nosings* of adjacent treads or between the *stairway* landing and the adjacent tread. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's *nosing*. *Winder* treads shall have a minimum tread depth of 11 inches (279 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

Exceptions:

1. *Spiral stairways* in accordance with Section 1011.10.
2. *Stairways* connecting stepped *aisles* to cross *aisles* or concourses shall be permitted to use the riser/tread dimension in Section 1030.14.2.
3. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; the maximum riser height shall be $7\frac{3}{4}$ inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum *winder* tread depth at the walkline shall be 10 inches (254 mm); and the minimum *winder* tread depth shall be 6 inches (152 mm).
4. See Section 503.1 of the International Existing Building Code for the replacement of existing *stairways*.
5. In Group I-3 facilities, *stairways* providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m²) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).

1011.5.5.1 Nosing projection size . The nosing of treads shall project not more than $1\frac{1}{4}$ inches (32 mm) over the tread below. The maximum nosing projection shall not be limited on stairways with open at open risers. A nosing projection not less than $\frac{3}{4}$ inch (19.1 mm) but not more than 1

¼ inches (32 mm) shall be provided on stairways where the tread depth is less than 11 inches (279 mm).

Exception: Where the nosing projection of the lowest tread of a flight is over an open riser at a floor or landing the nosing projection shall be considered compliant provided the tread depth complies with Section 1011.5.4

Commenter's Reason: Please note that no further modification of 1011.5.2 Riser height and tread depth is being made to the original proposal and that the substitution of the defined term "*nosing*" in the first sentence of the original proposal was also included in E59-21 which was approved by the committee as submitted.

The substitution of "over" in place of "beyond" also in the original proposal more accurately describes that the tread projection does not extend "beyond" the tread below, as this term would raise the question "Beyond what point?" The term "over" does the job without argument.

This proposal as modified seeks to do two things:

1. Move the requirement for nosing projection and size from the residential exception to the nosing projection size section such that it will apply to all stairs that have less than an 11" tread depth.
2. Allow the maximum nosing projection to be exceeded at open risers provided the projection is uniform.

The requirement for regulating the size of nosing projections is currently buried in an exception for residential stairs. Not only is this a prime example of poor code format but located there it fails to address stairs other than residential stairs such as those in I-3 facilities where only a 9 inch tread depth should require a nosing projection to provide a minimum tread surface and heel clearance for safe descent. See Fig 1. The code currently warrants a very unsafe design flaw by not requiring a nosing projection on all treads with less than 11 inch tread depth .

The text related to the nosing projection allowed at open risers has been modified to address the committee's concerns in discussion of this and related proposals. The modified language allows the maximum nosing projection to be exceeded only at open risers. It is important to note here that nosing projection uniformity is regulated in 1011.5.5.2.

This proposal moves the "requirement" for a nosing projection complete and without change from hiding in exception 3 limited to certain residential stairs into the existing section titled **1011.5.5.1 Nosing projection size**. Section 1011.5.5.1 now now as modified, clearly provides both minimum and maximum limits for all stairs. Testimony at the hearing lead the committee to believe that moving the requirement from the exception for residential stairs would adversely affect the minimum tread depth of IBC winders in curved and residential stairs by requiring more space. This is simply incorrect and is a widely misunderstood concept. Tread depth is defined in "**1015.5.2 Riser height and tread depth**" as the horizontal distance between the nosings of adjacent treads. Figure 2 clearly shows that regardless of the nosing projection size the tread depth remains the same. The required minimum tread depths of curved stair winders and of residential stair winders of 10 inches and 6 inches respectively is unchanged. The run of the stair and the space required to fit the stair and its treads through the turn is unchanged.

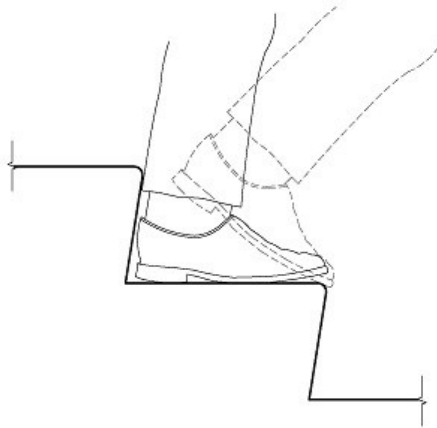
In any case the nosing projection is already required on residential winders where they have tread depths less than 11 inches. Where winders are allowed at curved stairs the minimum tread depth, at the narrow end, is 10 inches. These are very large monumental stairs with a minimum inside radius that is twice the width. Used only where ample space is available they are complex and typically designed and built by specialists without issues related to providing a nosing projection where required.

Most stairs have a nosing projection regardless of the tread depth. This is a common feature of well designed stairs that conform to the users expectations. No doubt you have felt the awkward difference when a nosing projection is absent. This change provides effective regulation of both the minimum and maximum size of the nosing projection on all stairs where used as well as where required.

The committee stated they preferred E64 however it is flawed. The use of "when" should be "where" but most significant is that it allows the maximum nosing projection to be exceeded on any stair when solid risers are not required whether the risers are open or not. I am sure this is not the intent of the proponent. The other flaw is that what could be a requirement, as formatted in this proposal, is a mistakenly approved exception we will have to live with if E64 is not overturned in this hearing.

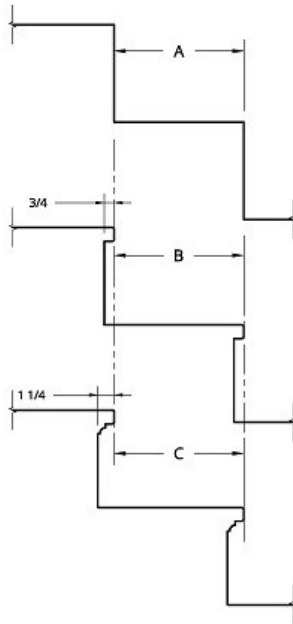
Finally the modification further clarifies regulation of the nosing projection at the lowest tread of a flight where nosing projection cannot be measured at stairs that terminate on to a floor or landing where there is no tread below.

Approval of this greatly improved proposal as modified by this public comment provides a comprehensive fix to the committee action and misunderstanding as a result of inaccurate testimony on E61. The modification provides specific conditions for exceeding the maximum nosing projection which was the intent of the committee in approval of E64. Most importantly this proposal moves the hidden requirement out in the open with clear language applicable to any stair that can be easily found, consistently interpreted, and fairly enforced.



A NOSING PROJECTION ALLOWS THE FOOT TO BE PLACED FURTHER FORWARD AND PROVIDES MORE HEEL CLEARANCE IN DESCENT.

FIG.1



TREAD DEPTH A= NO NOSING PROJECTION
TREAD DEPTH B= MIN NOSING PROJECTION
TREAD DEPTH C=MAX NOSING PROJECTION

TREAD DEPTHS A,B, AND C ARE EQUAL
NOSING PROJECTION SIZE DOES NOT CHANGE TREAD DEPTH

FIG.2

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. Residential stairs will not see an increase. This will add approximately one inch to the finished width of a stair tread in I-3 occupancies however treads are typically manufactured to widths that accommodate the nosing projection. If there is an increase it will be minimal but not possible to calculate as it is dependent upon the material chosen.

E64-21

Proposed Change as Submitted

Proponents: Thomas Zuzik Jr, of Railingcodes.com representing the National Ornamental & Miscellaneous Metals Association (NOMMA), representing the National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Building Code

Revise as follows:

1011.5.5.1 Nosing projection size. The leading edge (*nosings*) of treads shall project not more than $1\frac{1}{4}$ inches (32 mm) ~~beyond over the required~~ depth of the tread below.

Exception: When solid risers are not required, the nosing projection is permitted to exceed the maximum projection limit over the tread below.

1011.5.5.2 Nosing projection uniformity. *Nosing* projections of the leading edges shall be of uniform size, including the projections of the *nosings* leading edge of the floor at the top of a *flight*.

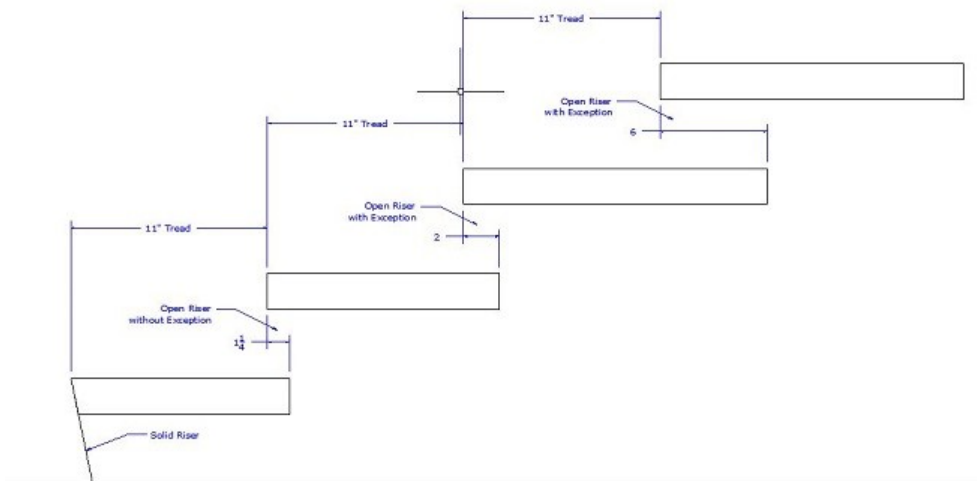
1011.5.5.3 Solid risers. Risers shall be solid.

Exceptions:

1. Solid risers are not required for *stairways* that are not required to comply with Section 1009.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in Group F, H and S occupancies other than areas accessible to the public. The size of the opening in the riser is not restricted.
3. Solid risers are not required for *spiral stairways* constructed in accordance with Section 1011.10.

Reason: When open risers are allowed per exceptions 1, 2 or 3 of Section 1011.5.5.3 Solid risers; limiting the depth of the nosing projection over the tread below does not limit or prevent how far a foot or other object may project under the tread above. The new exception to Section 1011.5.5.1 removes the maximum limit on the nosing projection allowing for the option of a deeper tread under the tread above when open risers are allowed and present.

The sketch below is provided for reference.



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

This code change proposal only allows for the possibility for the treads to be larger, but does not require them to be larger nor allow for the treads to be smaller. Thus, it adds no cost to a project, unless the project designer elects to add cost.

Staff note: Proposals E61-21, E63-21 and E64-21 addresses requirements for nosing in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action:

As Modified

Committee Modification:

1011.5.5.1 Nosing projection size. The leading edge (*nosing*) of treads shall project not more than 1¹/₄ inches (32 mm) beyond ~~over the required depth of the tread below.~~

Exception: When solid risers are not required, the nosing projection is permitted to exceed the maximum projection ~~limit over the tread below.~~

Committee Reason: The modification removed a conflict with tread depth. The proposal was approved as it clarified that the controlling dimension is the location of the riser. The full tread depth is from nosing to nosing and does not change where the horizontal piece is larger than the tread. (Vote: 8-6)

Staff Analysis: Proposals E61-21, E63-21 and E64-21 addresses requirements for nosing in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E64-21

Individual Consideration Agenda

Public Comment :

Proponents: David Cooper, representing Stairbuilders and Manufacturers Association (coderep@stairways.org) requests Disapprove

Commenter's Reason: Although we agree with the intent of this proposal to allow exceeding the maximum nosing projection at open risers this proposal has serious flaws but was approved as modified as they were unnoticed by the committee. For the following reasons the committee's decision must be disapproved.

1. The use of permissive language will cause misinterpretation. "When" should be replaced with "where".
2. The intent would be better understood if stated as requirement rather than as an exception.
3. As worded, if solid risers are not required the maximum nosing projection could be exceeded even if the risers are not open.
4. The proposal approved as modified suggests the possibility of a varied nosing projection. Although I understand it not to be the intent of the proponent, this variation within a flight as illustrated in the proposal received significant objections from many on the committee. Regardless of the size of the nosing projection, dimensional uniformity is an issue just as it is with tread depth but must also be controlled at floors and landings not just at treads or open risers even though nosing projection uniformity is covered in 1011.5.5.2.

For these reasons this must be disapproved. We will address these flaws in a modification to a similar proposal E61 that provides a comprehensive solution to this issue and other flaws in the current regulation of nosing projections that cause significant stair safety issues.

Your vote of disapproval is a necessity to correct the flawed committee action.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. No change to code.

Public Comment# 2493

Proposed Change as Submitted

Proponents: Jeff Perras, representing Code Red Consultants, LLC (jeffp@crcfire.com)

2021 International Building Code

Revise as follows:

1011.7.3 Enclosures under ~~interior~~ exit access stairways. The walls and soffits within enclosed usable spaces under ~~enclosed and~~ unenclosed stairways shall be protected by 1-hour fire-resistance-rated construction. ~~or the fire-resistance rating of the stairway enclosure, whichever is greater. Access to the enclosed space shall not be directly from within the stairway enclosure.~~

Exception: ~~Spaces under stairways serving and contained within a single residential dwelling unit in Group R-2 or R-3 shall be permitted to be protected on the enclosed side with 1/2-inch (12.7 mm) gypsum board. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.~~

Reason: The commentary for this section states that the section is intended to address the fire hazard of storage under a stairway. Enclosed stairways are required by Section 1023.2 to be separated from adjacent spaces with rated construction and direct access from normally unoccupied spaces is prohibited by Section 1023.4. Therefore, this section is not necessary for enclosed stairs and should only apply to exit access stairways. The intent of this section is for limit a fire in an enclosed, normally unoccupied space with moderate fuel loads from compromising the use of an exit access stairway. In lieu of needing a 1-hour separation, this code changes proposes to add an exception for fully sprinklered buildings. Providing sprinkler protection in the storage room should alleviate the concern with a fire going unnoticed in a storage room and is a concept recognized by multiple sections of the code. There is also no need for the existing exception with the proposed change since all new Group R buildings are sprinklered and dwelling unit separations are required by Section 420.2 & 420.3.

Cost Impact: The code change proposal will decrease the cost of construction
The proposed change eliminates the need for a rated storage room in a building with sprinklers throughout.

E66-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved. Exit access stairways are open, so enclosure under a stairway would never be applicable. This protection for the exit stairways is needed. This would be in conflict with similar stairway requirements in the IRC. The exception is expanded too far. (Vote: 12-1)

E66-21

Individual Consideration Agenda

Public Comment :

IBC: 1011.7.3 (IFC:[BE]1011.7.3)

Proponents: Jeff Perras, representing Code Red Consultants, LLC (jeffp@crcfire.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1011.7.3 Enclosures under exit access stairways . The walls and soffits within enclosed usable spaces under unenclosed stairways shall be protected by 1-hour fire-resistance-rated construction.

Exceptions:

1. Spaces under stairways serving and contained within a single residential dwelling unit in Group R-2 or R-3 shall be permitted to be

protected on the enclosed side with 1/2-inch (12.7 mm) gypsum board.

2. In buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2.

Commenter's Reason: During the committee action hearing concerns were raised about requiring buildings to be upgraded from an NFPA 13D system to an NFPA 13R system in order to avoid the rated separation. This revision to the proposal will keep the original exception for buildings equipped with an NFPA 13D system. The term unenclosed is changed to exit access stairways to make it clear which stairs this requirement applies to. Applying this requirement to stairs not used for egress purposes is unnecessary. Concerns were raised during the hearing regarding stair enclosures being used for storage. The code is clear in Section 1023.1 that interior exit stairways are not permitted to be used for purposes other than egress and circulation. It is also clear in Section 1023.4 that normally unoccupied spaces are not permitted to open directly into interior stairs. There is not technical basis for prohibiting all spaces from opening directly into a stair just because they are located under a stair. Also, this requirement will/does not prevent occupants from storing items in a stair such as a copy machine as mentioned in the hearing. This will continue to happen regardless of this requirement and should be addressed during the local inspection process.

Another concern raised during the hearing was the reduction in rating for interior exit stairs. Since this section is revised to only apply to exit access stairs, this concern is not valid.

Lastly, the public hearing results states that this code change would be in conflict with the IRC. This code section is not in the IRC, so there is no conflict.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction. The proposed change eliminates the need for a rated separation for spaces under exit access stairway in buildings protected with NFPA 13 or NFPA 13R systems.

Public Comment# 2839

Proposed Change as Submitted

Proponents: Eirene Knott, BRR Architecture, representing BRR Architecture (eirene.knott@brrarch.com)

2021 International Building Code

Revise as follows:

1012.1 Scope General. ~~The provisions of this section shall apply to ramps used as a component of a means of egress.~~ Ramps serving occupied portions of a building shall comply with the requirements of Sections 1012.2 through 1012.10.

Exceptions:

1. Ramped *aisles* within assembly rooms or spaces shall comply with the provisions in Section 1030.
2. Curb ramps shall comply with ICC A117.1.
3. Vehicle ramps in parking garages for pedestrian *exit access* shall not be required to comply with Sections 1012.3 through 1012.10 where they are not an *accessible* route serving accessible parking spaces, other required accessible elements or part of an *accessible means of egress*.
4. Ramps associated with loading docks or piers are not required to comply with this section.

Reason: Where does the IBC provide the requirements for a ramp that does not serve a means of egress? There is no language in the IBC yet a ramp that serves other than a means of egress is required to comply with accessibility requirements. There are no provisions in Chapter 11 to address how ramps are to be constructed nor is there any reference to Section 1012 in Chapter 11. So how does one know how to design a ramp without using the provisions in Section 1012? Section 1011 for stairs applies to any stair serving an occupied portion of a building, why should ramps be any different?

What happens when there is a ramp provided for delivery of products to a building or within a building? Where does the code provide direction on how these ramps are to be constructed? They are not used for egress so one would never end up in this section of the code to determine guard and handrail requirements. Since the current language in 1012 says the provisions apply only to ramps used in a means of egress, then there is no direction on how to provide a ramp for any other purpose than egress.

What I've done is taken the language from 1011.1 for stairs and applied it to ramps for 1012. I've included an exception for loading docks as those are exempt from guard requirements per 1015.2.

Cost Impact: The code change proposal will increase the cost of construction

I do not foresee this language increasing the cost of construction. However, some will believe it will. In my opinion, this only clarifies that when a ramp is provided, it does have code requirements associated with it. I believe the code is silent on those ramps.

E68-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that the proposed exception could conflict with exit discharge requirements. The exception should be limited to ramps for vehicle use only. (Vote: 13-0)

E68-21

Individual Consideration Agenda

Public Comment :

IBC: 1012.1 (IFC:[BE]1012.1)

Proponents: Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1012.1 General . ~~Ramps serving occupied portions~~ occupiable spaces or habitable spaces of a building shall comply with the requirements of Sections 1012.2 through 1012.10.

Exceptions:

1. Ramped *aisles* within assembly rooms or spaces shall comply with the provisions in Section 1030.
2. Curb ramps shall comply with ICC A117.1.
3. Vehicle ramps in parking garages for pedestrian *exit access* shall not be required to comply with Sections 1012.3 through 1012.10 where they are not an *accessible* route serving accessible parking spaces, other required accessible elements or part of an *accessible means of egress*.
4. ~~Ramps associated with loading docks or piers are not required to comply with this section.~~

Commenter's Reason: The committee felt the proposed language need to apply to loading ramps only. So rather than provide another exception, by adding within the scoping language that ramps in habitable spaces and occupiable spaces must comply with this section, that should address that a loading ramp would not need to comply with this section. By using the terms "habitable space" and "occupiable space" we're now suggesting terms which are defined as to when the ramp requirements would apply.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction I do not foresee this increasing the cost of construction, but some may believe it will so I have erred on the side of caution.

Public Comment# 2688

E70-21

Proposed Change as Submitted

Proponents: Timothy Stacy, representing Southern Oregon Fire Code Officials

2021 International Building Code

Add new text as follows:

1013.2 Mounting Location for signs near exits.

The center of exit signs shall be located a maximum vertical distance of 4 feet (1220 mm) above the egress opening and a maximum horizontal distance of 4 feet (1220 mm) from the edge of the egress opening.

Exception: The locations of exit signs shall be permitted to exceed these dimensions where approved by the building official.

Reason: Currently, exit signs can be installed at any height above an egress opening, potentially resulting in unreasonable viewing angles and increased difficulty with maintenance and testing. Both the vertical and horizontal 4 ft. dimensions would improve identification of the egress opening, access for maintenance and design flexibility. The 4 ft. vertical limit would allow most people to reach the exit signs with standard equipment, and the 4 ft. horizontal dimension is intended to provide consistency with the vertical distance. The exception is provided to accommodate situations where the code metrics cannot be achieved.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. It is assumed the sign will already be required.

E70-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that the requirements for exit sign location should match NFPA 101. The proposed dimension of 4 feet is arbitrary. It is up to the fire code official to determine this on a case-by-case basis for unusual situations. The exception is not needed - this is the same as alternative means. The proposed text literally applies to all exit signs; it is suggested to add a limitation such as where associated with an exit opening. (Vote: 7-6)

E70-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1013.2 (IFC:[BE]1013.2)

Proponents: Tanner Fairrington, representing Medford Fire-Rescue (tfairrington@yahoo.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1013.2 Mounting Location for signs near exits. ~~The center of of exit signs shall be located a maximum vertical distance of 4 feet (1220 mm) above the egress opening and a maximum horizontal distance of 4 feet (1220 mm) from the edge of the egress opening. opening.~~

In Group B and M occupancies, the exit signs shall be located above the exit or exit access opening associated with the exit signs in accordance with the following:

1. The bottom of the exit signs shall be 6 feet 8 inches (2033 mm) or less measured vertically above the clear opening height of the exit or exit access opening.
2. The closest side of the exit sign shall be less than the clear width of the exit or exit access opening measure horizontally from the edge of the clear opening of the exit or exit access opening.

Exception: ~~The locations of exit~~ Exit signs shall be permitted to be located at distances greater than ~~exceed these requirements dimensions~~ where approved by the building official.

Commenter's Reason: The proposal language is replaced with language that provides consistency with NFPA 101 as recommended by the committee. This public comment also addresses concerns raised during testimony by limiting the application to Group B and M occupancies since exit signs are commonly placed at the ceiling in open areas. The requirements only apply to exit signs near openings which should address the concerns expressed during testimony about the height of intermediate exit signs added to meet the 100 ft / viewing distance placement requirements of 503.1. Placing signs lower will allow for easier maintenance and inspection of these signs which will improve public safety. For example, car dealerships and large retail box stores often have open areas with ceiling heights at 20 ft. or more. Exit signs placed at the ceiling height are more difficult to reach and therefore are more difficult to inspect and maintain and would be blocked from view quickly by smoke in the event of a fire.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. The proposal and public comment may result in a minimally increased construction costs in some cases. However, maintenance of these signs is required, and the reduced height may result in reduced maintenance costs.

Public Comment# 2967

Proposed Change as Submitted

Proponents: Traci Harvey, Washington State Association of Fire Marshals, representing Washington State Association of Fire Marshals

2021 International Building Code

Revise as follows:

1013.5 Internally illuminated exit signs. Electrically powered, *self-luminous* and *photoluminescent* exit signs shall be *listed* and labeled in accordance with UL 924 and shall be installed in accordance with the manufacturer's instructions and Chapter 27. Exit signs shall be illuminated at all times. Exit signs shall be easily discernable and legible at all times.

Add new text as follows:

1013.5.1 Photoluminescent exit signs installation.

Photoluminescent exit signs shall be installed in locations where normal operating lighting conditions is sufficient to adequately charge the sign.

Reason: This section addresses a pervasive problem the working group has tried to address in photoluminescent exit signs. Photoluminescence is a process whereby luminescence is induced by the absorption of visible light. The use of photoluminescent exit signage in a low light areas [ie: movie theatres] has presented a problem where minimal or no ambient light is available to recharge the sign. The code lacks adequate means to address photoluminescent exit signs.

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

This proposal would not directly increase construction costs as it clarifies that exit signs need to be seen to perform the intended function.

E71-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved. The additional language to Section 1030.5 is already addressed in exit sign requirements in Section 1030.1. UL924 already addressed requirements for charging photoluminescent exit signs. The suggested language in Section 1030.5.1 is vague – how could a code official determine 'adequate'? The reason statement talks about movie theaters but lights turn on and off in these venues, so the proposed language does not work for those locations. (Vote: 13-0)

E71-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1013.5.1 (IFC:[BE]1013.5.1)

Proponents: Traci Harvey, representing Washington State Association of Fire Marshals (harveyt@spokanevalleyfire.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

1013.5.1 Photoluminescent exit signs . Photoluminescent exit signs shall be provided with an illumination source to charge the exit sign in accordance with the manufacturers instructions.

Commenter's Reason: The intent of this PC is clarify the original intent of the proposal that photoluminescent exiting signs are installed only in locations where they receive enough light to be able to function appropriately. This new language replacing the original proposal refers to the manufacturers instructions as that will better define what operating lighting is considered sufficient to charge the sign.

The revision initially submitted to Section 1013.5 was removed as such language is already addressed in Section 1013.1.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction
This is a clarification that is ensuring these signs work appropriately as intended.

Public Comment# 2240

Proposed Change as Submitted

Proponents: Lee Kranz, representing Myself (lkranz@bellevuewa.gov)

2021 International Building Code

Add new text as follows:

1014.2 Location.

Handrails serving flights of stairways, ramps, stepped aisles and ramped aisles shall comply with the provisions of Sections 1014.2.1 and 1014.2.2.

Revise as follows:

1014.2.1 ~~1014.2~~

Height. *Handrail* height, measured above *stair* tread *nosings*, or finish surface of *ramp* slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). *Handrail* height of *alternating tread devices* and ships ladders, measured above tread *nosings*, shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

Exceptions:

1. Where *handrail* fittings or bendings are used to provide continuous transition between flights, the fittings or bendings shall be permitted to exceed the maximum height.
2. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are associated with a Group R-3 occupancy or associated with individual *dwelling units* in Group R-2 occupancies; where *handrail* fittings or bendings are used to provide continuous transition between flights, transition at *winder* treads, transition from *handrail* to guard, or where used at the start of a *flight*, the *handrail* height at the fittings or bendings shall be permitted to exceed the maximum height.
3. *Handrails* on top of a *guard* where permitted along stepped *aisles* and ramped *aisles* in accordance with Section 1030.16.

Add new text as follows:

1014.2.2 Lateral location.

Handrails located outward from the edge of the walking surface of flights of stairways, ramps, stepped aisles and ramped aisles shall be located within 6 inches (152.4 mm) measured horizontally from the edge of the walking surface. Handrails projecting into the width of the walking surface shall comply with Section 1014.8.

Revise as follows:

1014.8 Projections. On *ramps* and on ramped *aisles* that are part of an *accessible* route, the clear width between *handrails* shall be 36 inches (914 mm) minimum. Projections into the required width of stepped and ramped aisles, flights of stairways and *ramps* at each side shall not exceed 4¹/₂ inches (114 mm) at or below the *handrail* height. Projections into the required width shall not be limited above the minimum headroom height required in Section 1011.3. Projections due to intermediate *handrails* shall not constitute a reduction in the egress width. Where a pair of intermediate *handrails* are provided within the *stairway* width without a walking surface between the pair of intermediate *handrails* and the distance between the pair of intermediate *handrails* is greater than 6 inches (152 mm), the available egress width shall be reduced by the distance between the closest edges of each such intermediate pair of *handrails* that is greater than 6 inches (152 mm).

Reason: Surprisingly, the code does not currently regulate the lateral distance that a handrail can be located away from the edge of the walking surface of a stair, ramp or aisle. If an architect wanted to locate a handrail 24 or even 36 inches away from the walking surface, there is currently no code provision to prevent that from happening. Most building officials would not permit that design but there is no code backing to support them. The substantive data provided as part of this code change provides the justification for limiting the lateral distance of the handrail to be not more than 6" from the edge of the walking surface. This code change is needed to insure that handrails will be located close enough to the edge of the walking surface to provide adequate support for pedestrians with limited reach capabilities.

Handrails that protrude into the required width of the stairway, ramp or aisle are currently regulated in Section 1014.8.



Note relative distance from the extent of the walking surface to edge of foot in photos 1-5 and in videos from SMA funded pilot study of handrails as used by persons with disabilities at the following links:

<https://stairways.wildapricot.org/resources/code-research-videos/nodevice01hr1.wmv>

<https://stairways.wildapricot.org/resources/code-research-videos/nodevice02hr1.wmv>

<https://stairways.wildapricot.org/resources/code-research-videos/nodevice04hr1.wmv>

<https://stairways.wildapricot.org/resources/code-research-videos/nodevice05hr1.wmv>

The persons in these videos have difficulty walking across a room but use no device such as a cane or walker.

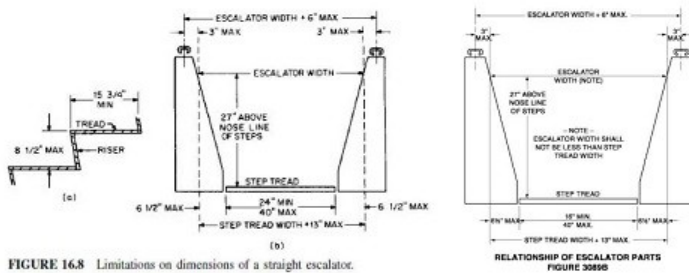
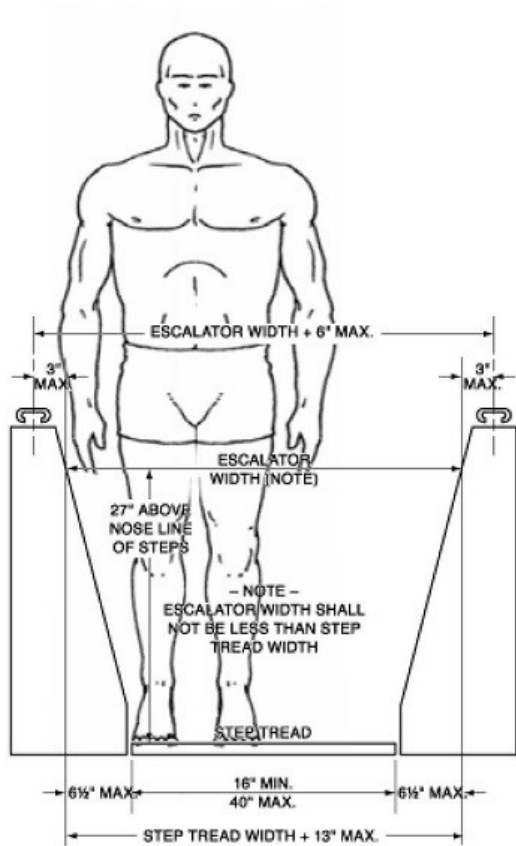


FIGURE 16.8 Limitations on dimensions of a straight escalator.

From Oregon Escalator Regulation

From California Escalator Regulation

Typical Escalator regulations allow up to 9 1/2 inches from end of walking surface to center of handrail

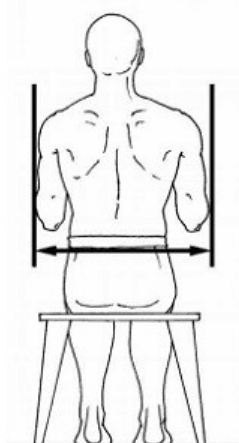


**RELATIONSHIP OF ESCALATOR PARTS
FIGURE 3089B**

Scaled Composite of 5'9" Male Anthropometric Sketch on escalator illustrates relative position of Hand to rail with the side of the foot at the end of the walking surface.

Forearm-Forearm Breadth

FEMALE N = 2208			MALE N = 1774		
Centimeters		Inches	Centimeters		Inches
46.85	Mean	18.44	54.61	Mean	21.50
3.47	Std Dev	1.36	4.36	Std Dev	1.72
60.90	Maximum	23.98	72.52	Maximum	28.54
37.30	Minimum	14.69	39.90	Minimum	15.71
Percentiles			Percentiles		
39.42	1 st	15.52	45.12	1 st	17.76
40.24	2 nd	15.84	46.17	2 nd	18.18
40.76	3 rd	16.05	46.84	3 rd	18.44
41.47	5 th	16.33	47.74	5 th	18.80
42.58	10 th	16.76	49.16	10 th	19.35
43.33	15 th	17.06	50.13	15 th	19.74
43.94	20 th	17.30	50.91	20 th	20.04
44.47	25 th	17.51	51.59	25 th	20.31
44.94	30 th	17.69	52.21	30 th	20.56
45.39	35 th	17.87	52.79	35 th	20.79
45.82	40 th	18.04	53.35	40 th	21.00
46.24	45 th	18.20	53.90	45 th	21.22
46.66	50 th	18.37	54.45	50 th	21.44
47.08	55 th	18.54	55.00	55 th	21.65
47.52	60 th	18.71	55.56	60 th	21.88
47.98	65 th	18.89	56.16	65 th	22.11
48.47	70 th	19.08	56.79	70 th	22.36
49.01	75 th	19.30	57.47	75 th	22.63
49.63	80 th	19.54	58.25	80 th	22.93
50.37	85 th	19.83	59.16	85 th	23.29
51.33	90 th	20.21	60.32	90 th	23.75
52.84	95 th	20.80	62.06	95 th	24.43
53.87	97 th	21.21	63.18	97 th	24.87
54.66	98 th	21.52	64.00	98 th	25.20
55.95	99 th	22.03	65.27	99 th	25.70

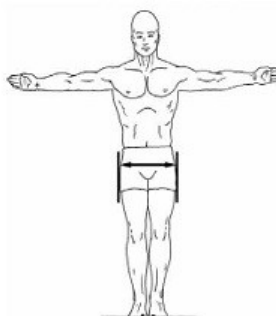


11



Hip Breadth

FEMALE N = 2208			MALE N = 1774		
Centimeters		Inches	Centimeters		Inches
34.27	Mean	13.49	34.18	Mean	13.46
2.24	Std Dev	.88	2.03	Std Dev	.80
42.00	Maximum	16.54	41.60	Maximum	16.38
27.00	Minimum	10.63	28.20	Minimum	11.10
Percentiles			Percentiles		
29.58	1 st	11.65	29.64	1 st	11.67
30.05	2 nd	11.83	30.18	2 nd	11.88
30.35	3 rd	11.95	30.51	3 rd	12.01
30.78	5 th	12.12	30.97	5 th	12.19
31.47	10 th	12.39	31.66	10 th	12.46
31.96	15 th	12.58	32.12	15 th	12.65
32.35	20 th	12.74	32.49	20 th	12.79
32.70	25 th	12.87	32.81	25 th	12.92
33.01	30 th	13.00	33.10	30 th	13.03
33.31	35 th	13.11	33.36	35 th	13.14
33.59	40 th	13.23	33.62	40 th	13.24
33.87	45 th	13.34	33.87	45 th	13.33
34.15	50 th	13.45	34.12	50 th	13.43
34.44	55 th	13.56	34.37	55 th	13.53
34.73	60 th	13.67	34.62	60 th	13.63
35.03	65 th	13.79	34.89	65 th	13.74
35.36	70 th	13.92	35.18	70 th	13.85
35.71	75 th	14.06	35.49	75 th	13.97
36.12	80 th	14.22	35.85	80 th	14.11
36.59	85 th	14.41	36.27	85 th	14.28
37.21	90 th	14.65	36.82	90 th	14.50
38.15	95 th	15.02	37.65	95 th	14.82
38.77	97 th	15.27	38.22	97 th	15.05
39.24	98 th	15.45	38.64	98 th	15.21
40.00	99 th	15.75	39.32	99 th	15.48



19



Anthropometric Data

Apr 21, 2006 — TABLE OF CONTENTS. Anthropometric Data Point. Page #11 & 19 Gordon, Claire C. et. al 1988
 Anthropometric Survey of U.S. Personnel:

<https://multisite.eos.ncsu.edu/www-ergocenter-ncsu-edu/wp-content/uploads/sites/18/2016/06/Anthropometric-Detailed-Data-Tables.pdf>

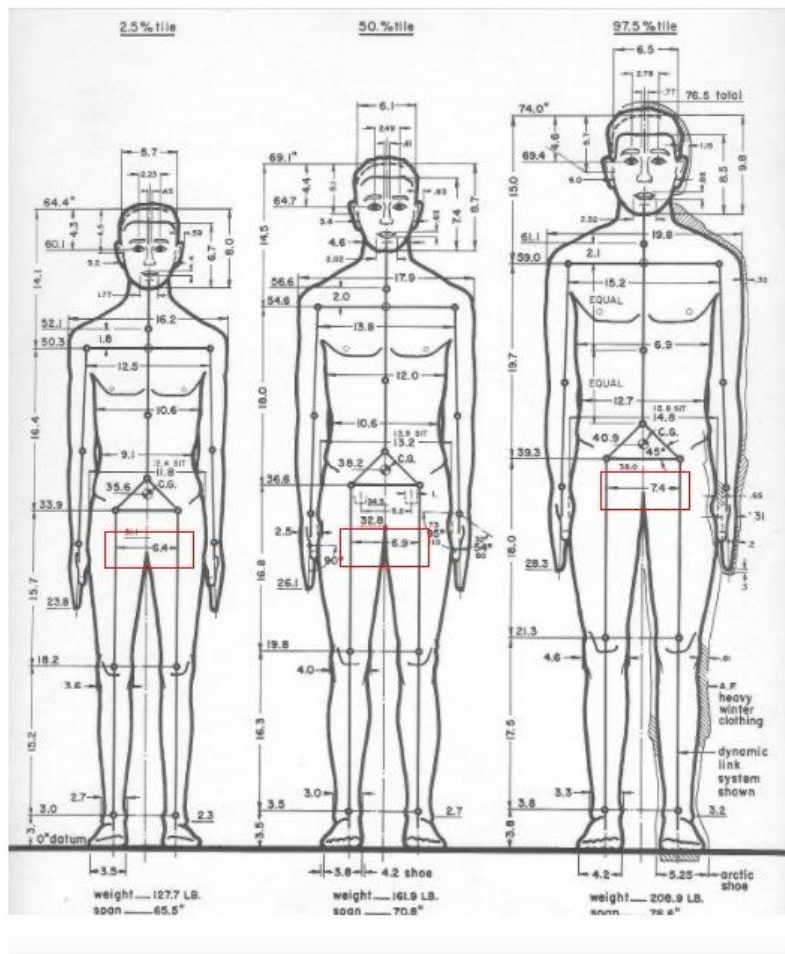
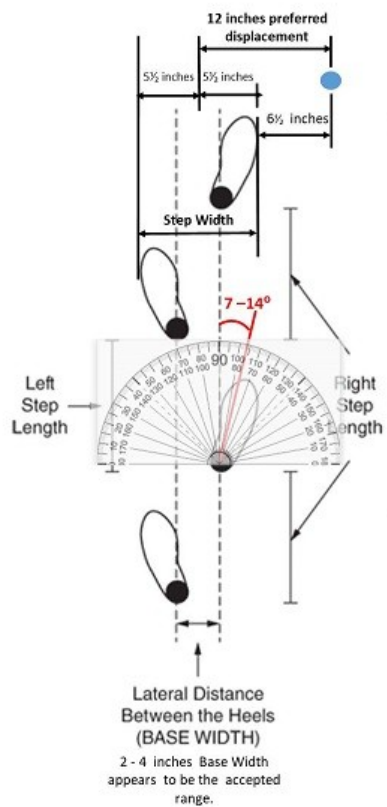


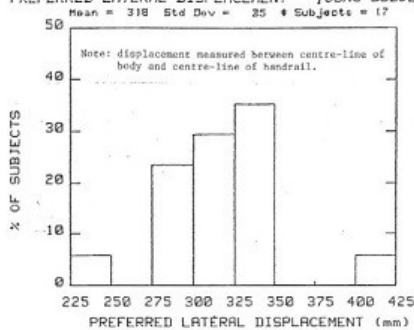
Illustration of only 1 inch range in stance dimension from 6.4 inches for 2.5 percentile to 7.4 inches for 97.5 percentile



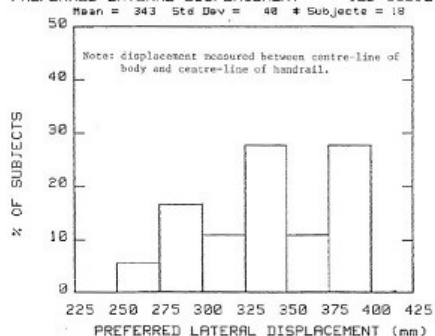
An offset of 6 inches from the limit of the walking surface to the center of the handrail is conservatively justified considering:

1. Data from B. Maki's static measurement of preferred lateral displacement.
2. Step widths shown in the tables below for older persons who widen their gait in an effort to stabilize as determined by Herrero-Larrea, A.

PREFERRED LATERAL DISPLACEMENT YOUNG SUBJECTS 89



PREFERRED LATERAL DISPLACEMENT OLD SUBJECTS



Above Tables from:

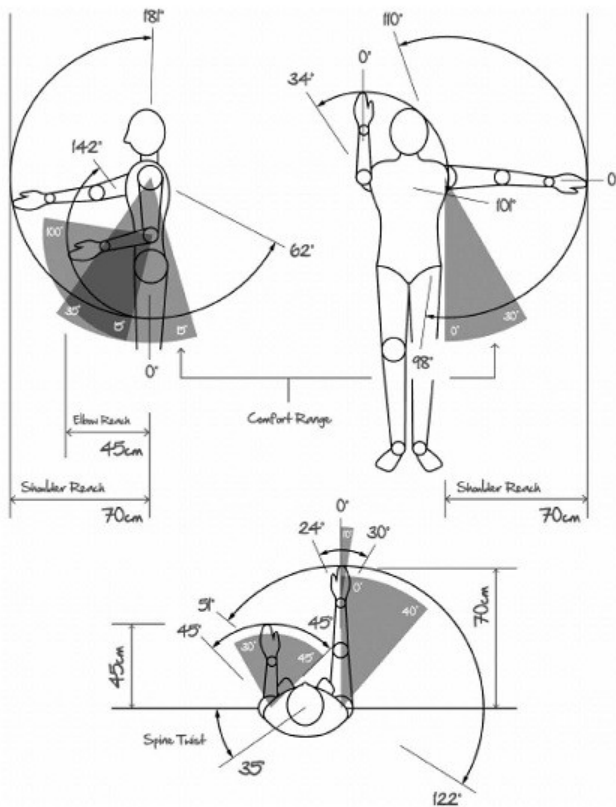
Biomechanical Assessment of Handrail Parameters with Special Consideration to the Needs of Elderly Users; B.E. Maki, G.R. Fernie, West Park Research, May 5, 1983. Prepared for the National Research Council of Canada.

2.

Step width		Mean	SD	Normal limits (95%)		Normal limits (99%)		n
65-79	Men 65-79	10	4.5	1.1	19	-1.6	21.6	71
	Women 65-79	9.4	3.8	1.9	17	-0.4	19.2	98
>79	Men >79	12.5	4.9	2.6	22.3	-0.3	25.2	98
	Women >79	11.4	4.5	2.4	20.5	-0.3	23.2	164
TOTAL (weighted)		10.3	4.37	1.6	19.8	-1	21.7	431

Above Table from:

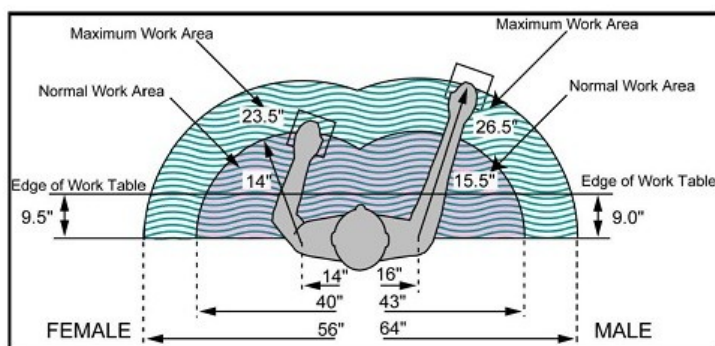
Herrero-Larrea, A., Miñarro, A., Narvaiza, L. *et al.* Normal limits of home measured spatial gait parameters of the elderly population and their association with health variables. *Sci Rep* 8, 13193 (2018).
<https://doi.org/10.1038/s41598-018-31507-1>



Reach and rotation comfort zones of the average human based on charts developed by Dreyfuss & Tilley (2002).

Looker, Jed. (2015). Reaching for Holograms: Assessing the Ergonomics of the Microsoft™ Hololens™ 3D Gesture Known as the "Air Tap".

https://www.researchgate.net/publication/284283876_Reaching_for_Holograms_Assessing_the_Ergonomics_of_the_Microsoft_Hololens_3D_Gesture_Known_as_the_Air_Tap/citation/download



Reach range illustrations above clearly show that proposed 6 inch offset of the handrail beyond the extent of the walking surface is well within reason.

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

The proposal simply limits the distance that a handrail can be from the edge of the walking surface. It will not change the cost of construction.

Staff Note: E72-21, E73-21 and E79-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because some of the committee felt that moving the handrail outboard from the stair treads would allow a gap next to the stairway at the walking surface. There was concern that someone could get their foot trapped at the edge and this would be a tripping hazard. It might be better for the code to be silent and address this on a case-by-case basis. (Vote: 8-5)

Staff Analysis: E72-21, E73-21 and E79-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E72-21

Individual Consideration Agenda

Public Comment 1:

Proponents: Lee Kranz, representing Myself (lkranz@bellevuewa.gov) requests As Submitted

Commenter's Reason: Many building officials are surprised when they learn that the building code does not limit how far away a handrail can be from the edge of a stair or ramp walking surface. E72 would limit how far a handrail can be located away from the edge of the walking surface of a stairway tread or a ramp. The anthropometric data submitted with this proposal shows that a handrail located within 6" of the edge of the walking surface of a stair or ramp is reasonable and is a vast improvement over what we have now.

The Means of Egress Committee raised the following issues. Our response to them follows each point.

1. **Issue:** The proposal would create the option to have a 6" opening between the edge of the walking surface and the guard.

Response: You are still required to comply with the guard requirements in Section 1015.4, which only allows a 4" space. See Figure 1 below.

2. **Issue:** Related to #1 above, someone could place their foot in the gap between the edge of the walking surface and the guard.

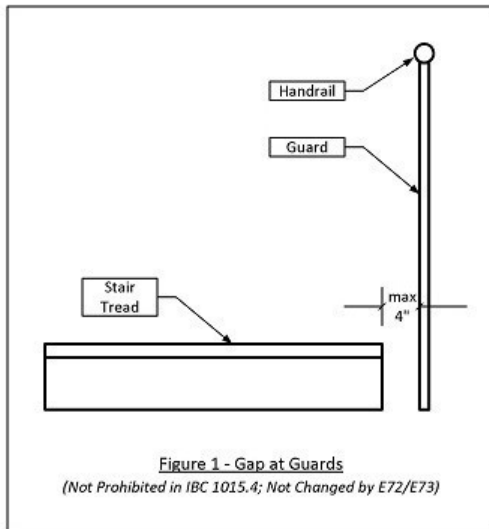
Response: The current code does not prohibit creation of a 4" gap between the edge of the walking surface and the guard. This proposal does not change anything regarding how much space is allowed at the edge of a stair tread or ramp in relation to the bottom of a guard. Again, see Figure 1 below.

3. **Issue:** The anthropometric data did not include individuals with physical disabilities or sight impairments.

Response: The data was collected from the Stair Builders and Manufacturer's Association (SMA) and includes data on how an older person, a young child, a woman carrying a baby and a healthy person would use a handrail. There are also links to videos showing persons with difficulty walking and how they rely on the use of the handrail for stabilization and support. After studying the data, limiting the handrail to be within 6" of the edge of the walking surface of a stair or ramp was determined to be the most reasonable distance for the handrail location.

Photographic Examples. Photos 1, 2 and 3 below show the difficulty using a handrail that is 15 1/2" away from the edge of the walking surface. In all the photos, the person's arm is already fully- or over-extended, which is not comfortable for the user, nor is it safe if the person were to trip. You can see that this is an extreme example of what the code currently allows (i.e. not regulated). It's not a safe design but without language in the code that limits the handrail reach range, it's legal for the design professional to design it this way.

Photo 4 shows how the same child in Photo 3 can easily reach a handrail located 6" from the edge of the walking surface (note the bent elbow). The wood handrail in this photo is at approximately the same height as the handrail that is in the background, which is 15-1/2 inches from the edge of the stair. This shows 6" is a reasonable and safer limitation for the handrail placement, even for a small child.







During testimony at the CAH, a question was raised as to the applicability of the figure in the reason statement showing the escalator. Our response is that this was included only to demonstrate the viability of the 6" lateral distance, since escalators are allowed to have up to 9-1/2" from the edge of the tread to the handrail.

E73 also proposes a 6" lateral distance. The only difference between E72 and E73 is how they are formatted in the code; there are no substantive differences. We would note that one of the people who spoke in opposition to this proposal at the CAH submitted a public comment to an ultimately unsuccessful proposal last cycle on the same topic (E76-18), in an attempt to set the lateral distance to zero (no offset allowed). This public comment did not get onto the ballot for the online vote. It is also worth noting that the Egress Committee final vote on E72-21 was very close.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This code change simply limits the distance that a handrail can be located away from the edge of the walking surface of a stair or ramp. There will be no impact to the cost of construction.

Public Comments to Code Change Proposals E72-21 and E73-21 address requirements in a different or contradicting manner. The eligible ICC voting members are urged to make their intentions clear with their actions on these proposals.

Public Comment# 2320

E73-21

Proposed Change as Submitted

Proponents: Lee Kranz, representing Washington Association of Building Officials Technical Code Development Committee (lkranz@bellevuewa.gov); Micah Chappell, representing Washington Association of Building Officials (micah.chappell@seattle.gov)

2021 International Building Code

Add new text as follows:

1014.3 Lateral location.

Handrails located outward from the edge of the walking surface of flights of stairways, ramps, stepped aisles and ramped aisles shall be located within 6 inches (152.4 mm) measured horizontally from the edge of the walking surface. Handrails projecting into the width of the walking surface shall comply with Section 1014.8.

Reason: Surprisingly, the code does not currently regulate the lateral distance that a handrail can be located away from the edge of the walking surface of a stair, ramp or aisle. If an architect wanted to locate a handrail 24 or even 36 inches away from the walking surface, there is currently no code provision to prevent that from happening. Most building officials would not permit that design but there is no code backing to support them. The substantive data provided as part of this code change provides the justification for limiting the lateral distance of the handrail to be not more than 6" from the edge of the walking surface. This code change is needed to insure that handrails will be located close enough to the edge of the walking surface to provide adequate support for pedestrians with limited reach capabilities. Handrails that protrude into the required width of the stairway, ramp or aisle are currently regulated in Section 1014.8

See the reason statement for E72-21 for additional anthropometric data.

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

This code change will not increase the cost of construction. The intent is to improve the safety for those needing to use a handrail while traversing on stairways, ramps and aisles.

Staff Note: E72-21, E73-21 and E79-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E73-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The committee disapproved this proposal based on their action on E72 and for the same reasons. (Vote 7-6)

Staff Analysis: E72-21, E73-21 and E79-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E73-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1014.3 (IFC:[BE]1014.3)

Proponents: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1014.3 Lateral location. Handrails located outward from the edge of the walking surface of flights of stairways, ramps, stepped aisles and ramped aisles shall be located within ~~6 inches (152.4 mm)~~ 3 inches (76 mm) measured horizontally from the edge of the walking surface to the edge of the handrail. Handrails projecting into the width of the walking surface shall comply with Section 1014.8.

Commenter's Reason: During the committee deliberation, a statement was brought up about a concern that placing the handrail outside the tread could result in a gap. This public comment moves the handrail closer to the edge of the tread. Given the ergonomics noted in the original E72-21 proposal, it is unlikely that any footfall would occur within this area.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The proposal intent is to clarify a design option.

Public Comments to Code Change Proposals E72-21 and E73-21 address requirements in a different or contradicting manner. The eligible ICC voting members are urged to make their intentions clear with their actions on these proposals.

Public Comment# 2871

Public Comment 2:

IBC: 1014.3 (IFC:[BE]1014.3)

Proponents: Richard Williams, representing Washington Association of Building Officials Technical Code Development Committee (richard@cwaconsultants.net); Micah Chappell, representing Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Submitted

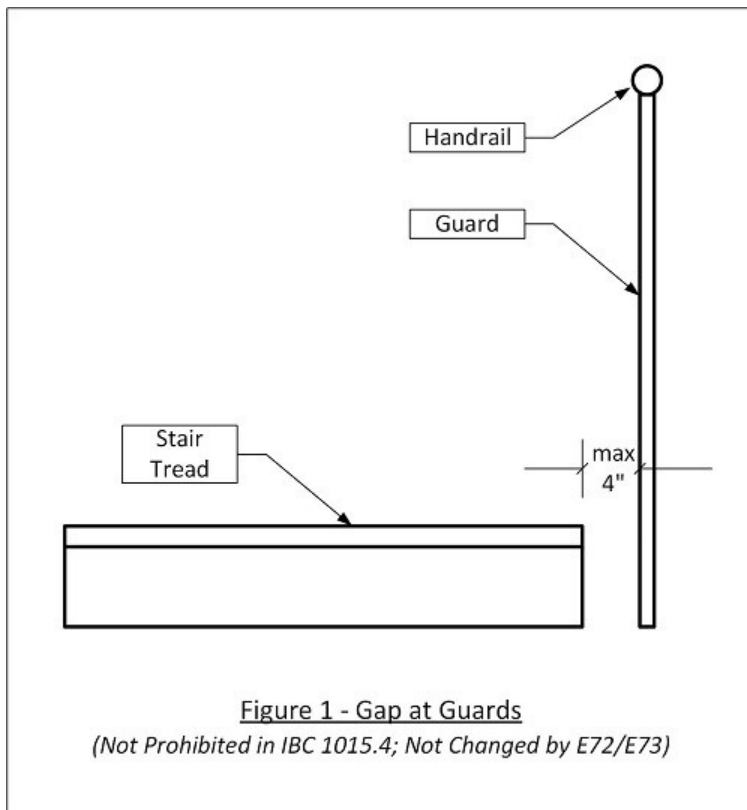
Commenter's Reason: Many building officials are surprised when they learn that the building code does not limit how far away a handrail can be from the edge of a stair or ramp walking surface. E73 would limit how far a handrail can be located away from the edge of the walking surface of a stairway tread or a ramp. The anthropometric data submitted with E72-21 (E72 and E73 were submitted together) shows that a handrail located within 6" of the edge of the walking surface of a stair or ramp is reasonable and is a vast improvement over what we have now. The Means of Egress Committee raised the following issues. Our response to them follows each point.

1. **Issue:** The proposal would create the option to have a 6" opening between the edge of the walking surface and the guard.

Response: You are still required to comply with the guard requirements in Section 1015.4, which only allows a 4" space. See Figure 1 below.

2. **Issue:** Related to #1 above, someone could place their foot in the gap between the edge of the walking surface and the guard.

Response: While current edge protection requirements for ramps would prohibit this, the current code does not prohibit creation of a 4" gap between the edge of the walking surface and the guard for stairs. This proposal does not change anything regarding how much space is allowed at the edge of a stair tread or ramp in relation to the bottom of a guard. Again, see Figure 1 below.



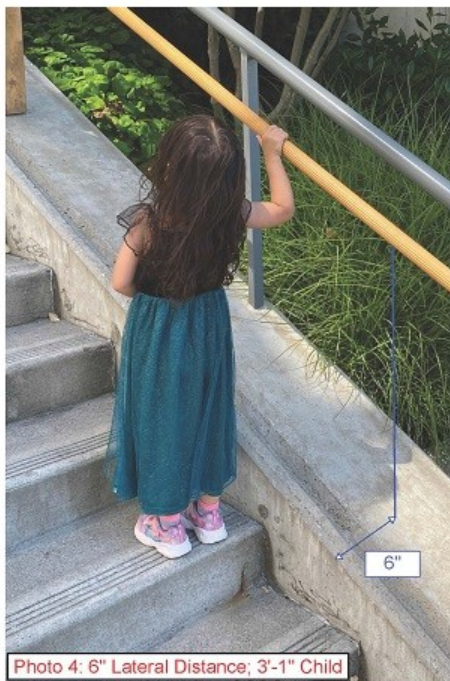
3. Issue: The anthropometric data did not include individuals with physical disabilities or sight impairments.

Response: The data was collected from the Stair Builders and Manufacturer's Association (SMA) and includes data on how an older person, a young child, a woman carrying a baby and a healthy person would use a handrail. There are also links to videos showing persons with difficulty walking and how they rely on the use of the handrail for stabilization and support. After studying the data, limiting the handrail to be within 6" of the edge of the walking surface of a stair or ramp was determined to be the most reasonable distance for the handrail location.

Photographic Examples. Photos 1, 2 and 3 below show the difficulty using a handrail that is 15 ½" away from the edge of the walking surface. In all the photos, the person's arm is already fully- or over-extended, which is not comfortable for the user, nor is it safe if the person were to trip. You can see that this is an extreme example of what the code currently allows (i.e. not regulated). It's not a safe design but without language in the code that limits the handrail reach range, it's legal for the design professional to design it this way.

Photo 4 shows how the same child in Photo 3 can easily reach a handrail located 6" from the edge of the walking surface (note the bent elbow). The wood handrail in this photo is at approximately the same height as the handrail that is in the background, which is 15-1/2 inches from the edge of the stair. This shows 6" is a reasonable and safer limitation for the handrail placement, even for a small child.





During testimony at the CAH, a question was raised as to the applicability of the figure in the reason statement showing the escalator. Our response is that this was included only to demonstrate the viability of the 6" lateral distance, since escalators are allowed to have up to 9-1/2" from the edge of the tread to the handrail.

E72 also proposes a 6" lateral distance. The only difference between E72 and E73 is how they are formatted in the code; there are no substantive differences. We would note that one of the people who spoke in opposition to this proposal at the CAH submitted a public comment to an ultimately unsuccessful proposal last cycle on the same topic (E76-18), in an attempt to set the lateral distance to zero (no offset allowed). This public comment did not get onto the ballot for the online vote. It is also worth noting that the egress committee final vote on E73 (and E72) was very close.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This code change simply limits the distance that a handrail can be located away from the edge of the walking surface of a stair or ramp. There will be no impact to the cost of construction.

Public Comments to Code Change Proposals E72-21 and E73-21 address requirements in a different or contradicting manner. The eligible ICC voting members are urged to make their intentions clear with their actions on these proposals.

Public Comment# 2527

Proposed Change as Submitted

Proponents: Thomas Zuzik Jr, of Railingcodes.com representing the National Ornamental & Miscellaneous Metals Association (NOMMA), representing the National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Building Code

Revise as follows:

1014.6 Handrail extensions. *Handrails* shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent *flight of stairs* or *ramp* run. Where *handrails* are not continuous between flights, the *handrails* shall extend horizontally not less than 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At *ramps* where *handrails* are not continuous between runs, the *handrails* shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. The extensions of *handrails* shall be in the same direction of the flights of *stairs* at *stairways* and the *ramp* runs at *ramps* and shall extend the required minimum length before any change in direction. The length of the extension shall be measured in accordance with Section 1014.4 or 1014.7, whichever is less.

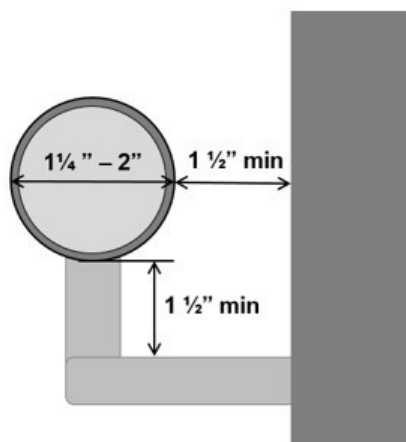
Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be *accessible* need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the *handrail* extensions in accordance with Section 1030.16.
3. *Handrails* for *alternating tread devices* and ships ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between flights or to extend beyond the top or bottom risers.

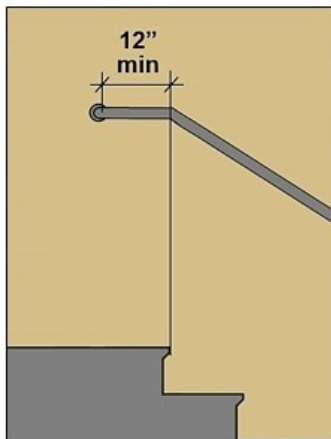
Reason: One of the most common handrail conflicts fabricators undergo with design professionals, contractors and inspectors is the proper termination of handrail extensions. Architectural drawings and plans continue to be widely drawn and distributed with incorrect minimum termination lengths and premature changes in direction. The family of ICC codes, A117.1, ADA and ABA covertly state where to measure the minimum extension length to and understate that handrail extensions “shall be in the same direction” before any change in direction; this leads to the codes and standards largely being misinterpreted by designers, contractors, fabricators, and inspectors that the minimum extension length is required to be met before any change in direction over landings is permitted. The diagram figures of A117.1, 2010 ADA, ABA and posted information on the US Access Boards website clearly explain that handrail extensions are to be measured to the furthest usable portion of the handrail before a return or termination, and specifically not to use a handrails overall length.

This code change specifically addresses both the issues outlined above by clearly defining the parameters a handrail termination is to be measured to, and the minimum length a handrail extension shall meet before any change in direction is allowed. The diagram figures shown below provide visual reference of the intended points to measure extensions to in A117.1, 2010 ADA & ABA, the figures however are not part of the IBC. Thus this code change provides a written description within the IBC that designers, contractors, manufactures and inspectors can clearly follow that will produce a result that meets the intent of the code for the extensions to be fully usable for the entire minimum length before any change in direction or termination occurs.

Specifications for handrails also address the diameter of circular cross sections and required knuckle clearance.

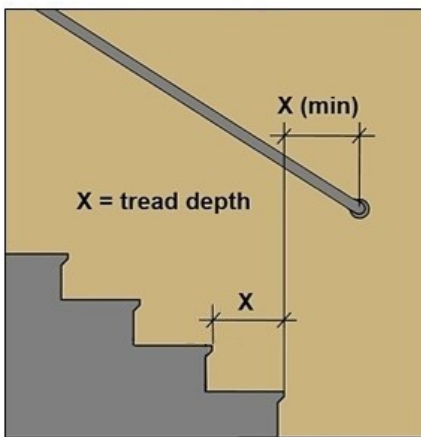


Top Handrail Extension



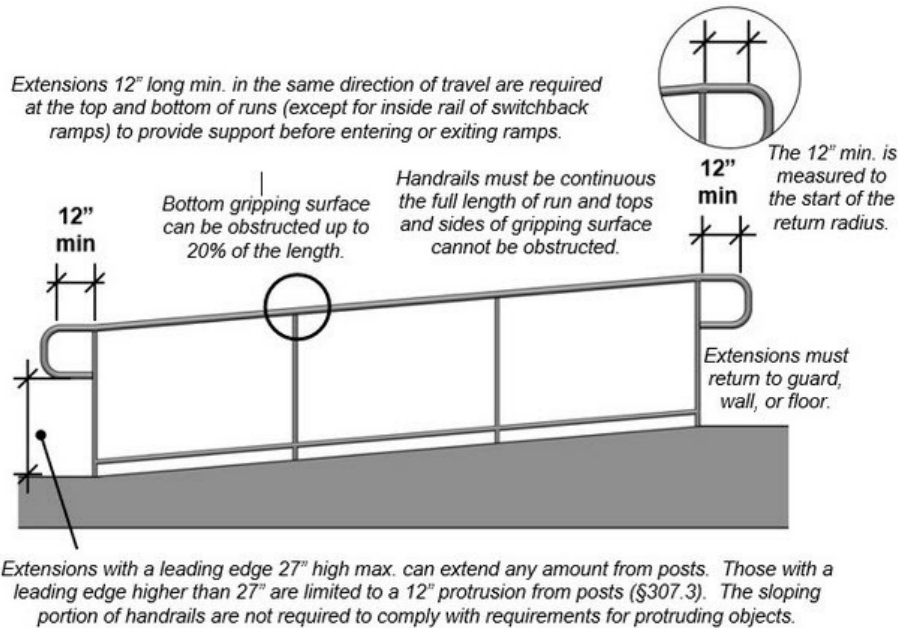
Handrails at the top of stairways must extend 12" minimum horizontally above the landing beginning directly above the first riser nosing or be continuous to the handrail of an adjacent stair flight (§505.10.2).

Bottom Handrail Extension



Handrails at the bottom must extend beyond the last riser nosing at the slope of the stair flight for a distance at least equal to one tread depth or be continuous to the handrail of an adjacent stair flight protruding objects.

Handrail Continuity and Extensions



Surface requirements and clearances facilitate a power grip along the length of handrails. Handrails can have circular or non-circular cross-sections, but must have rounded edges. The gripping surface and adjacent surfaces must be free of abrasive or sharp elements.

Bibliography: The figures shown were downloaded from the U.S. Access Board - Home (access-board.gov)

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This proposal is providing clarification of already required parameters within the code.

Staff Note: E75-21 and E76-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E76-21

Public Hearing Results

Committee Action:

As Submitted

Committee Reason: This proposal was approved because the committee felt the handrail extension should be measured from the stairway nosing. The proposed text matches the interpretation issued by the U.S. Access Board. (Vote: 12-2)

Staff Analysis: E75-21 and E76-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E76-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1014.6 (IFC:[BE]1014.6)

Proponents: David Cooper, representing Stairbuilders and Manufacturers Association (coderep@stairways.org) requests As Modified by Public

Modify as follows:

2021 International Building Code

1014.6 Handrail extensions . *Handrails* shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent *flight of stairs* or *ramp* run. Where *handrails* are not continuous between flights, the *handrails* shall extend horizontally not less than 12 inches (305 mm) beyond the top ~~riser~~ landing nosing and continue to slope for the depth of one tread beyond the bottom ~~riser~~ tread nosing . At *ramps* where *handrails* are not continuous between runs, the *handrails* shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. The extensions of *handrails* shall be in the same direction of the flights of *stairs* at *stairways* and the *ramp* runs at *ramps* and shall extend the required minimum length before any change in direction or decrease in the clearance required by Section 1014.4 or 1014.7. ~~The length of the extension shall be measured in accordance with Section 1014.4 or 1014.7, whichever is less.~~

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be *accessible* need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the *handrail* extensions in accordance with Section 1030.16.
3. *Handrails* for *alternating tread devices* and ships ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between flights or to extend beyond the top or bottom risers.

Commenter's Reason: The substitution of "Nosing" for "Riser" provides a place to measure from that will ensure consistent measurement when stairs have sloped risers or none at all. This modification complies with the interpretive illustrations of handrail extension standards provided in the proposal from the access board and will ensure consistent enforcement. In the committees discussion of both E75 and E76 this modification was a portion of E75 that was highly recommended by the committee to be added to E76 by public comment. The last sentence has been deleted to be more clear. It has been replaced with "or decrease in the clearance as required by Section 1014.4 or 1014.7". Section 1014.4 Continuity cites clearance at handrail brackets and Section 1014.7 cites clearance at walls and other surfaces. Clearance is relevant as the clearance decreases at the beginning of the bend of the return, the change of direction, and identifies the end of the required length of the extension and that it has the required clearance for the full length.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This modified proposal merely clarifies the current requirement.

Public Comment# 2494

Public Comment 2:

IBC: 1014.6 (IFC:[BE]1014.6)

Proponents: Shane Nilles, representing Self (snilles@cityofcheney.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1014.6 Handrail extensions . *Handrails* shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent *flight of stairs* or *ramp* run. Where *handrails* are not continuous between flights, the *handrails* shall extend horizontally not less than 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At *ramps* where *handrails* are not continuous between runs, the *handrails* shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. The extensions of *handrails* shall be in the same direction of the flights of *stairs* at *stairways* and the *ramp* runs at *ramps* and shall extend the required minimum length before any change in direction. ~~The length of the extension shall be measured in accordance with Section 1014.4 or 1014.7, whichever is less.~~

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be *accessible* need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the *handrail* extensions in accordance with Section 1030.16.

3. *Handrails for alternating tread devices* and ships ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails for alternating tread devices* are not required to be continuous between flights or to extend beyond the top or bottom risers.

Commenter's Reason: Sections 1014.4 and 1014.7 do not contain any language regarding performing measurement of extensions. If that sentence is not deleted it will create great confusion for the code user.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. There is no cost impact by the revision. The revisions is editorial.

Public Comment# 2550

Proposed Change as Submitted

Proponents: David Cooper, representing Stairbuilders and Manufacturers Association (Coderep@stairways.org)

2021 International Building Code

Revise as follows:

1015.2 Where required. *Guards shall be provided for those portions of ~~located along~~ open-sided walking surfaces, including floors, mezzanines, equipment platforms, *aisles, stairs, ramps* and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Gaps at the top of guards shall be less than 4 inches (102 mm) in length. *Guards shall be adequate in strength and attachment in accordance with Section 1607.9.**

Exceptions: *Guards are not required for the following locations:*

1. On the loading side of loading docks or piers.
2. On the audience side of *stages* and raised *platforms*, including *stairs* leading up to the *stage* and raised *platforms*.
3. On raised *stage* and *platform* floor areas, such as runways, *ramps* and side *stages* used for entertainment or presentations.
4. At vertical openings in the performance area of *stages* and *platforms*.
5. At elevated walking surfaces appurtenant to *stages* and *platforms* for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.

Reason: The change to the first sentence correlates with a similar change implemented in the 2021 IRC as shown below.

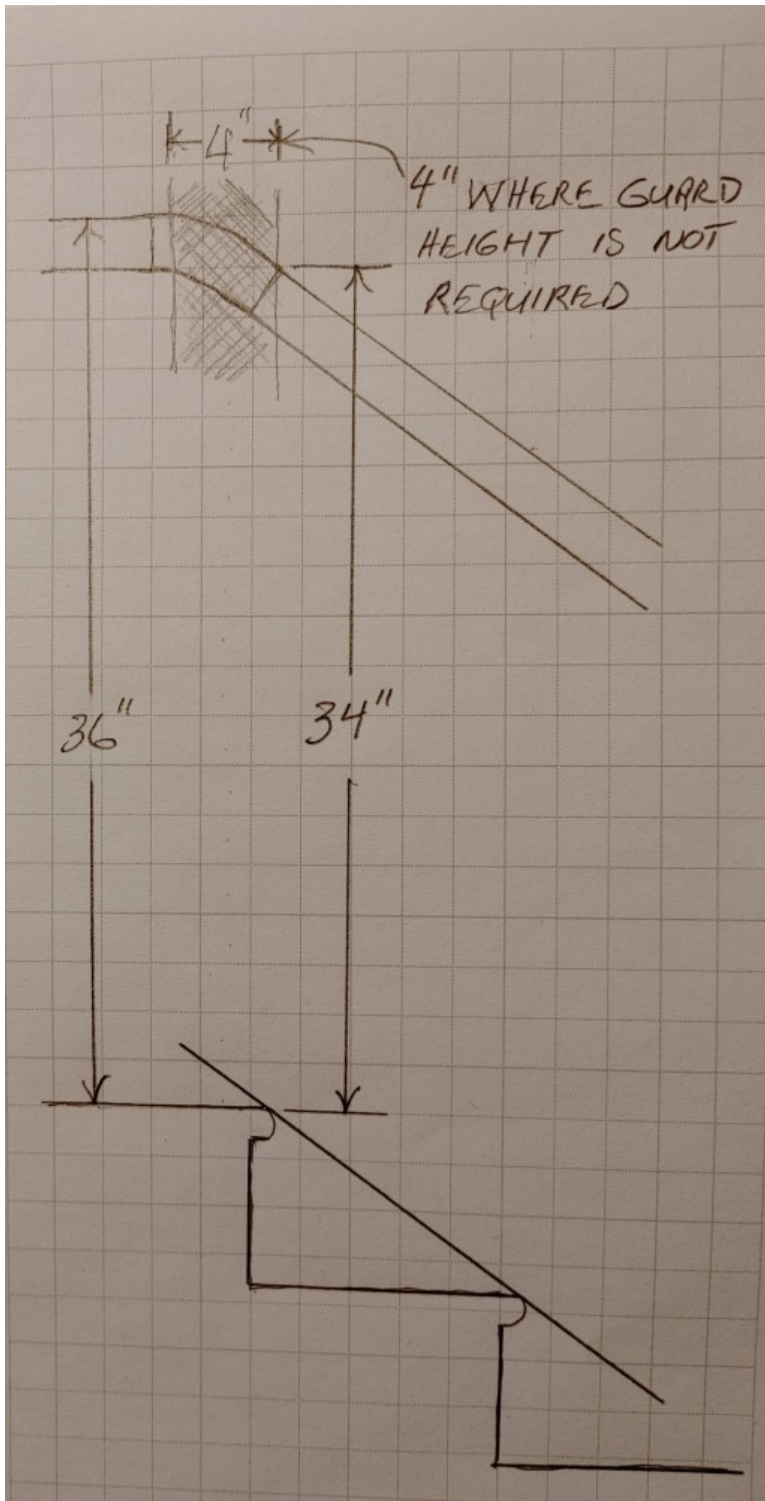
R312.1.1 Where required.

Guards shall be ***provided for those portions*** of open-sided walking surfaces, including ***floors***, stairs, ramps and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard. (***emphasis added***)

Many guards are provided in areas where the elevation is not constant. As in the IRC this change to the IBC clarifies the intent of the code to provide a guard only on that portion of an elevated surface exceeding the specified height above the floor or grade below.

The additional sentence inserted recognizes that the code does not specify that guards must have a continuous top, or how guards terminate as it does with handrails. Consequently, the code does not limit the use of simple pilons, or bollards spaced as far apart as 21 inches to suffice as the required guard in applications where a 21-inch opening limitation is allowed. Guards need not be continuous to serve their defined purpose to limit the possibility of a fall to a lower elevation nor does the top of the guard need to terminate in a wall or other portion of the structure when the guard is supported by connections at points below the top of the guard. The limit provided in this proposal of four inches is like the smallest guard opening. Four inches is a reasonable limit for a horizontal gap at the top of the guard that can be easily complied with in any occupancy and will not further restrict the opening limitations allowed below the top of the guard.

It is also the intent of this proposal to provide a four-inch “gap zone” to allow a smooth transition from stair guard height to level guard height at the top of flights. The “gap zone” limit will clarify that a guard of any height or none would be permitted. Currently in certain residential applications the code allows the handrail to serve as the top of the stair guard and requires the handrail to be continuous to the top riser. Where the nosing projects over the top riser a level guard is required at a higher height than allowed for the handrail creating an overlapping conflict. Figure 1 illustrates a very typical residential stair. The handrail serves as the top of the stair guard at the lowest possible height to allow the grasp of children. The handrail does not reach guard height until it is well past the top nosing where a taller level guard height is required. The over easing shown is simply a much safer condition that is currently not allowed by the most common interpretations. This change resolves the conflict in the requirements.



Cost Impact: The code change proposal will increase the cost of construction

Due to the many varied guard designs and materials no exact cost can be determined. Although most guards would not increase in cost those that are currently designed as simple vertical pilons or bollards will be most affected as well as those designed to terminate 21 inches away from a wall or other object will need to be extended. The 21-inch sphere rule guard systems as most commonly installed of pipe would not increase in cost. Other guard systems would not be increased in cost.

E80-21

Public Hearing Results

Committee Reason: This proposal was disapproved. The committee felt that this gap in the handrails was already addressed in Section 1015.4.
(Vote: 14-0)

Individual Consideration Agenda

Public Comment 1:

IBC: 1015.2 (IFC:[BE]1015.2)

Proponents: David Cooper, representing Stairbuilders and Manufacturers Association (coderep@stairways.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1015.2 Where required . *Guards* shall be provided for those portions of open-sided walking surfaces, including floors, *mezzanines*, equipment platforms, *aisles*, *stairs*, *ramps* and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. ~~Gaps at the top of guards shall be less than 4 inches (102 mm) in length.~~ *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9. *Guards shall have a top rail or top surface without interruptions that allow the passage of a sphere 4³/₈ inches (111 mm) in diameter.*

Exceptions: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of *stages* and raised *platforms*, including *stairs* leading up to the *stage* and raised *platforms*.
3. On raised *stage* and *platform* floor areas, such as runways, *ramps* and side *stages* used for entertainment or presentations.
4. At vertical openings in the performance area of *stages* and *platforms*.
5. At elevated walking surfaces appurtenant to *stages* and *platforms* for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.

Commenter's Reason: This modification more succinctly prescribes a guard system that cannot be simply pylons and provides specific limitation for allowed interruptions of the top surface or top rail of the guard system. I have increased the "gap" to 4³/₈ inches as this is the same as the sphere rule in the upper portion of the guards from the 36 height to the 42 height.

It is important to note that OSHA requires a guard with a top rail however ICC codes do not recognize that guards must be anything other than a system of vertical pylons. Especially where 21inch sphere rules are allowed it is impossible to understand that a system of only vertical pylons or simple bars spaced almost 21 inches apart could be understood to be a guard as defined in the ICC codes: **"A building component or system of building components located near the open sides of elevated walking surfaces that minimizes the possibility of a fall from the walking surface to a lower level."**

This is a clear of example that the committee got this wrong. The section on opening limitation they cite in their reason for disapproval allows a 21inch sphere rule that simply is not sufficient to minimize a fall. How can this situation be any different than the requirement for a top rail at structural glass baluster panels in the event one should break. In this case there is nothing at all to limit the possibility of a fall through a 21 inch wide swath between pylons. Good common sense should prevail.

Please overturn the committee and vote to approve this proposal as modified by public comment.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction

Due to the many varied designs of guard systems no exact cost can be determined. However this will only require the addition of a top rail or top surface to those guards that are currently designed as a simple array of pylons or only vertical elements.

Proposed Change as Submitted

Proponents: Stephen Thomas, Colorado Code Consulting, a Shums Coda Assoc Company, representing Colorado Chapter ICC (stthomas@coloradocode.net); Timothy Pate, representing Colorado Chapter Code Change Committee (tpate@broomfield.org)

2021 International Building Code

Revise as follows:

1015.3 Height. Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the guard.

Exceptions:

1. For occupancies in Group R-3 ~~not more than three stories above grade in height~~ and within individual *dwelling units* in occupancies in Group R-2 ~~not more than three stories above grade in height with separate means of egress~~, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces. Guards serving exterior spaces accessed from a dwelling unit and located not more than 3 stories above grade plane shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.
2. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
4. The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.
5. Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread *nosings*.
6. In Group F occupancies where *exit access stairways* serve fewer than three stories and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

Reason: The purpose of this proposal is to make the language easier to understand and more reasonable. The height of a guard located within a dwelling unit should be consistent. Whether it is in a Group R-3 dwelling unit or an individual dwelling unit in a Group R-2 occupancy, the requirements should be the same. The level of hazard is the same in both. The existing language that limited the exception to Group R-2 occupancies 3 stories or less does not make any sense. What makes a fall any more dangerous within a dwelling unit on the second floor than a dwelling unit on the sixth floor. It also does not make sense to limit this to buildings with separate occupancies. The presences of one or two exits has no bearing on the fall protection within a dwelling unit.

We have added language to clarify that guards outside of the dwelling unit such as decks and balconies will need to have guards with a minimum height of 42 inches if the unit is more than three stories above grade plane. This seems reasonable since we believe that is what the original language was intended to do.

Cost Impact: The code change proposal will decrease the cost of construction
The costs will decrease slightly since taller guards will not be required within the dwelling units.

E81-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because the committee felt that the height of the exterior guard should be based on the height above grade, not the grade plane. This could also be an issue for Group R-3 units taller than 3 stories. (Vote: 9-5)

Individual Consideration Agenda

Public Comment 1:

IBC: 1015.3

Proponents: David Cooper, representing Stairbuilders and Manufacturers Association (coderep@stairways.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1015.3 Height . Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the guard.

Exceptions:

1. For occupancies in Group R-3 and within individual *dwelling units* in occupancies in Group R-2, required *guards serving walking surfaces* not more than 2 stories above the floor or grade below shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces. *Guards* serving exterior ~~spaces~~ walking surfaces accessed only from a single, individual R-3 or R-2 dwelling unit and located not more than ~~3-2~~ stories above the grade plane below shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.
2. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
4. The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.
5. Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread *nosing*.
6. In Group F occupancies where *exit access stairways* serve fewer than three stories and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

Commenter's Reason: The code currently recognizes that in certain residential occupancies minimizing a possible fall from a walking surface only requires a guard height of 36 inches, however it does not clearly address guards at the exterior walking surfaces of these units. Nor does it address possible exposures of more than a three story drop within certain interior occupancies described in E82.

This modification of E81 clearly addresses the issues at the root of E81, floor modification E81-Niles-1 and E82 by simply referring to the level of the walking surface that requires a guard that is 36 inches in height regardless of whether it is an interior or exterior walking surface. Within the specified occupancies, if the height from the walking surface to the floor or grade below is not greater than 2 stories the required guard height is 36 inches.

Please overturn the committee action and support this modification.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction

This will clarify that 36 inch high guards may be used in certain locations where 42 inch guards are now required lower the quantity and cost of related materials. Due to the varied designs of guard systems it is impossible to calculate the savings.

Public Comments to Code Change Proposals E81-21 and E82-21 address requirements in a different or contradicting manner. The eligible ICC voting members are urged to make their intentions clear with their actions on these proposals.

Proposed Change as Submitted

Proponents: Thomas Zuzik Jr, of Railingcodes.com representing the National Ornamental & Miscellaneous Metals Association (NOMMA), representing the National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Building Code

Revise as follows:

1015.3 Height. Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the guard.

Exceptions:

1. For occupancies in Group R-3 not more than three stories above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three stories above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.
2. For occupancies in Group R-2 and R-3, within the interior space in individual dwelling units, where the open-sided walking surface or landing are located not more than 25 feet (7.62 meters) measured vertically to the floor or grade below, required guards shall not be less than 36 inches (914 mm) in height measured vertically above the adjacent walking surface or landing.
- ~~2-3.~~ For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
- ~~3-4.~~ For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
- ~~4-5.~~ The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.
- ~~5-6.~~ Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread *nosings*.
- ~~6-7.~~ In Group F occupancies where *exit access stairways* serve fewer than three stories and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

Reason: Both the IBC & IRC have accepted the reduction in guard height from 42 inches to 36 inches for private dwelling units since the first model ICC code publications. The current height exceptions within the ICC's family of model codes are focused on a predetermined building height of 3 stories and centered around that the occupants are extremely familiar with their living environment. This code change proposal builds on the established history of the 36-inch height exception currently within the 2021 IBC under exception (1), in Section 1015.3 Height and published in prior model code years also.

This proposal specifically limits the new exception to openside walking surfaces and landings within the interior space of individual dwelling units, within occupancy Groups R-3 & R-2.

The proposal is centered on allowing an owner of a 2 or 3 floor unit within a Group R-2 building who's unit is located on upper floor levels within a building more than 3 stories in height or owns a single-family R-3 dwelling more than 3 stories, by allowing the same guard height exception as a home 3 stories or less; but specifically limits the exception to only the interior area of the dwelling, and only when the interior openside fall in question is less than 25 feet in total rise.

There are many dwelling units that have an interior single floor level rise to a second level located along a stair flight, were the stair flight guard is allowed to be reduced in height from 42-inches to 34-38 inches for the handrail height, however once reaching a mid-landing or the 2nd level are now required to increase the height changing the design of the pattern or ornamental look of the guard. Wanting to keep a consistent height for both the stairs and the landings is highly important when designers are working with ornamental infill in guards.

This new exception is different than exception 1 though similar in wording, however, both exceptions are required to hold the line with the widely established exception allowing the 36-inch guard height for very specific dwelling unit. The history of why previous model code proposals have not had this specific exception is of the concern for making sure that the exception is not used for public areas and private dwelling fall heights above 3 stories. By limiting the exception specifically to interior conditioned space of an individual dwelling and attaching a maximum fall height limit to 25

feet, keeps the exception well within the parameters of the existing exception 1. As to the 25-foot vertical rise limit, this is based on the approximate maximum rise a dwelling unit might have when 2 stair flights are stacked above each other without any mid-landings in either of the stair flights. The horizontal measuring parameters for the 36-inch is based on long established code language for required guards under Section 1015.1.

Cost Impact: The code change proposal will decrease the cost of construction

Having to select a cost impact when submitting a proposal, there will be a savings on projects, but this savings will be very minimal for the most common project if any. The major savings will be seen on much higher cost projects with highly ornamental and detailed guards.

E82-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved for consistency with the committee action on E81. (Vote: 13-1)

E82-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1015.3 (IFC:[BE] 1015.3)

Proponents: Thomas Zuzik Jr, representing the National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1015.3 Height . Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the guard.

Exceptions:

1. For occupancies in Group R-3 not more than three stories above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three stories above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.
2. For occupancies in Group R-2 and R-3, within the interior conditioned space ~~in~~ of individual dwelling units, where the open-sided walking surface ~~is~~ or landing are located not more than 25 feet (7.62 meters) measured vertically to the floor or ~~grade walking surface~~ below, required guards shall not be less than 36 inches (914 mm) in height measured vertically above the adjacent walking surface ~~or landing~~.
3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
4. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
5. The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.
6. Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread *nosings*.

7. In Group F occupancies where *exit access stairways* serve fewer than three stories and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

Commenter's Reason: Reason:

- Both the IBC & IRC have accepted the reduction in guard height from 42 inches to 36 inches for private dwelling units since the first model ICC code publications. The current height exceptions within the ICC's family of model codes are focused on a predetermined building height of 3 stories and centered around that the occupants are extremely familiar with their living environment. The original code change proposal builds on the established history of the 36-inch height exception currently within the 2021 IBC under exception (1), in Section 1015.3 Height and published in prior model code years also.
- This proposal specifically limits the new exception to openside walking surfaces and landings within the **interior conditioned space** of individual dwelling units, within occupancy Groups R-3 & R-2.
- The proposal is centered on allowing an owner of a 2 or 3 floor unit within a Group R-2 building who's unit is located on upper floor levels within a building more than 3 stories in height or owns a single-family R-3 dwelling more than 3 stories, by allowing the same guard height exception as a home 3 stories or less; but specifically limits the exception to only the interior area of the dwelling, and only when the fall for the interior open side in question is less than 25 feet in total rise.
- There are many dwelling units that have an interior single floor level rise to a second level located along a stair flight, were the stair flight guard is allowed to be reduced in height from 42-inches to 34-38 inches for the handrail height, however once reaching a mid-landing or the 2nd level are now required to increase the height changing the design of the pattern or ornamental look of the guard. Wanting to keep a consistent height for both the stairs and the landings is highly important when designers are working with ornamental infill in guards.
- This new exception is **completely different** than exception 1, though similar in wording in that both exceptions hold the line with the widely established precedent of allowing the 36-inch guard height for very specific dwelling units. However, exception 1 allows both exterior and interior locations. By limiting the exception specifically to the interior conditioned space of an individual dwelling unit and attaching a maximum fall height limit to 25 feet, stays within the parameters of the existing exceptions for lower buildings.
 - As to the 25-foot vertical rise limit, this is based on the approximate maximum rise a dwelling unit might have when 2 stair flights are stacked above each other without any mid-landings in either of the stair flights.
 - Exception 1, conditions the exception to the height of the building structure above grade plane, where as the new exception (2) does not look at how tall the building is above grade plane, the exception only focuses on the height above the walking surface below, within the individual dwelling unit, not outside.
- A review of the video from the committee action hearing's, <https://cpdaccess.com/videos/4378/> shows that the committee felt the wording needed to be slightly adjusted and with that adjustment should pass during the final action hearings through public comment.

We ask that you approve this code change proposal as presented with public comment

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction

The cost impact for this proposal will show a savings on projects, but this savings will be very minimal for the most common project if any. The major savings will be seen on much higher cost projects with highly ornamental and detailed guards

Public Comments to Code Change Proposals E81-21 and E82-21 address requirements in a different or contradicting manner. The eligible ICC voting members are urged to make their intentions clear with their actions on these proposals.

Public Comment# 2801

E86-21

Proposed Change as Submitted

Proponents: William Koffel, representing Semiconductor Industry Association (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE^a

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200 ^a	250 ^b
I-1	Not Permitted	250 ^b
B	200	300 ^c
F-2, S-2, U	300	400 ^c
H-1	Not Permitted	75 ^d
H-2	Not Permitted	100 ^d
H-3	Not Permitted	150 ^d
H-4	Not Permitted	175 ^d
H-5	Not Permitted	200 ^c
I-2, I-3	Not Permitted	200 ^c
I-4	150	200 ^c

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:

- Section 402.8 : For the distance limitation in malls
 - Section 407.4: For the distance limitation in Group I-2.
 - Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
 - Section 411.2: For the distance limitation in special amusement areas.
 - Section 412.6: For the distance limitations in aircraft manufacturing facilities.
 - Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.
 - Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.
 - Section 1006.3.4: For buildings with one exit.
 - Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.
 - Section 1017.2.3: For increased distance limitation in Group H-5
 - Section 1030.7: For increased limitation in assembly seating.
 - Section 3103.4: For temporary structures.
 - Section 3104.9: For pedestrian walkways.
- b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.
- c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
- d. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.1.
- e. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.

1017.2.1 Exterior egress balcony increase. *Exit access* travel distances specified in Table 1017.2 shall be increased up to an additional 100 feet (30 480 mm) provided that the last portion of the *exit access* leading to the exit occurs on an exterior egress balcony constructed in accordance with Section 1021. The length of such balcony shall be not less than the amount of the increase taken.

1017.2.2 Groups F-1 and S-1 increase. The maximum *exit access* travel distance shall be 400 feet (122 m) in Group F-1 or S-1 occupancies where all of the following conditions are met:

1. The portion of the building classified as Group F-1 or S-1 is limited to one *story* in height.
2. The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm).
3. The building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

Add new text as follows:

1017.2.3 Group H-5 Increase.

The maximum *exit access* travel distance shall be 300 feet (91 m) in the fabrication areas of Group H-5 occupancies where all of the following conditions are met:

1. The width of the fabrication area is 300 feet (91 m) or greater.
2. The area of the fabrication area is 220,000 sq. ft. (18,600 m²) or greater.
3. The height of the fabrication area, measured between the raised metal floor and the clean filter ceiling, is 16 feet (48768 mm) or greater.
4. The supply ventilation rate is 20 cfm/sq. ft. or greater and shall remain operational.

Reason: The Semiconductor Industry Association commissioned a study by Jensen Hughes to evaluate the feasibility of increasing the exit access travel distance in the fabrication areas of a Group H-5 occupancy. A decision was made to see determine if the travel distance could be increased to 300 feet, as permitted for Group B occupancies. When the Group H-5 requirements were introduced into the Legacy Codes, it was stated that the control requirements would be such that the fire risk associated with a Group H-5 occupancy would be similar to that associated with a Group B occupancy. This concept is reflected in the building area limits in Table 506.2 for other than the recently introduced Type IV building area limits. The Pathfinder people movement model was utilized to calculate required safe egress times (RSET) and the Fire Dynamics Simulator (FDS) was utilized to evaluate tenability conditions that would result from the design fire.

Bounding facility design parameters were selected based on input from the semiconductor industry to develop minimum requirements for a generic fabrication facility (Fab). These parameters were used as inputs for the computer modeling that was performed and include:

- + Minimum fab width of 300 ft.
- + Minimum fab area of 220,000 SF
- + Minimum distance between raised metal floor (RMF) and clean filter ceiling (CFC) system of 16 ft
- + Minimum (supply) ventilation rate of 20 cfm/SF (at least 25% fan filter unit (FFU) coverage). (must remain running at full capacity during egress)

Performance Criteria

Performance objectives were selected for the generic study to ensure that occupants would not encounter untenable conditions during the period of egress. Visibility, thermal exposure, and smoke toxicity are the commonly used tenability parameters for egress studies. Table 1 summarizes the threshold criteria that were used in the study.

Table 1 – Summary of Performance Criteria for Egress Study

Table 1 – Summary of Performance Criteria for Egress Study

<i>Parameter</i>	<i>Performance Criteria¹</i>
Visibility distance	At least 33 ft (10 m) to backlit object while en route to exit; At least 10 ft (3.3 m) to backlit object while in queue
Temperature	Less than 76 °C (169 °F) ²
Toxic Gas (measured as Carbon Monoxide concentration)	Less than 600 ppm ³

¹ All values measured at 6 ft (1.8 m) above floor

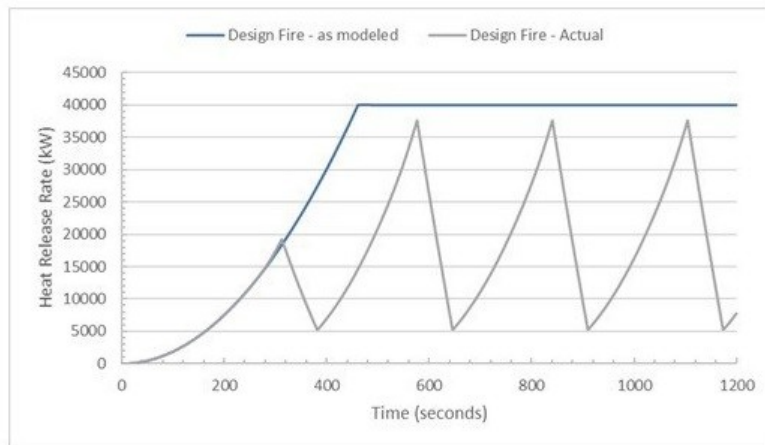
² Based on 20 minute exposure before incapacitation [ref]

³ Concentration levels of approximately 600 ppm can affect cardiac function for some individuals [ref]

Design Fire Scenario

The design fire scenario was based on a flammable liquid spill that ignites and spreads to a process tool. The resulting heat release rate profile was developed based on a generic tool size, the spacing between tools, and a fuel load limit of 1 lb/ft² of non-FM 4910 plastic. This information was used to model the fire development for a worst-case tool, and the ability for fire to spread to adjacent tools either in the same row or across the bay or chase.

A maximum heat release rate of 20 MW was calculated for each tool with potential spread to 2 adjacent tools in the time period of evacuation. At any given time, no more than 2 tools would be burning at this steady-state heat release rate of 20 MW each, for a total of 40 MW. Rather than crediting the decay and growth periods that would occur during the time period of tool fire spread, an ultra-fast growing fire that reaches a steady-state value of 40 MW was used to provide a conservative bound for the tool fire scenario (see Figure 1)



Three fire locations (center, southwest corner and west wall locations) were evaluated to examine the effect of location on smoke spread dynamics and the RSET values resulting when a reduced number of exits are available.

Figure 1 – Heat release rate profile for tool design fire scenario

Summary of Egress Times

RSET values were determined by summing the detection, warning, premovement and travel times required to travel to an exit stair and enter the vestibule. The detection time was identified using FDS model data for smoke detection and sprinkler activation, while allowing for the 90 second delay specified in NFPA 72. The warning time was based on IBC requirements for smoke control systems and the premovement time was conservatively selected based on literature data. Travel times were determined by Pathfinder assuming that 96.6% of building occupants travel unimpeded and 3.4% of building occupants require the use of crutches or a cane. These times are summarized in Table 2.

A safety factor of 1.5 was applied to the evacuation times as specified in IBC Section 909.4.6. As shown in Table 2, RSET values ranged between 10.9 and 15 minutes, with longer values corresponding to the southwest corner and west wall fire scenarios where an exit is closed for at least part of the egress time period. The largest RSET value resulted for the west wall fire location where all of the exits are initially available for use. At 380 seconds, the exit is blocked due to diminished visibility conditions, requiring that occupants in the queue travel to another exit.

Table 2 – Summary of Required Safe Egress Time Model Results

Table 2 – Summary of Required Safe Egress Time Model Results

Event	Center Fire No Exits Closed (seconds / minutes)	Southwest Corner Fire One Exit Closed (seconds / minutes)	West Wall Fire One Exit Closed at 380 seconds (seconds / minutes)
Detection	215 / 3.6	215 / 3.6	215 / 3.6
Warning	10 / 0.2	10 / 0.2	10 / 0.2
Pre-movement delay	30 / 0.5	30 / 0.5	30 / 0.5
Travel time	256 / 4.3	385 / 6.4	250 / 4.2
Evacuation time	511 / 8.5	640 / 10.7	678 / 11.3
RSET	655 / 10.9	847 / 14.1	904 / 15.0

Summary of Fire Modeling

FDS models were constructed for the three fire locations, incorporating sprinkler activation to examine mixing effects but not suppression effects. Model results showed that visibility is the limiting tenability parameter where smoke spreads radially from the fire location but never fills the entire Fab. Rather, a steady-state condition is reached for each scenario where the smoke generation rate is balanced with the ventilation rate. For each fire location, the visibility at 6 ft above the floor will exceed 98 ft in approximately 30-50% of the Fab when the steady-state condition is reached.

A sensitivity study was performed to determine if the model results are dependent on FFU coverage, ventilation rate/SF, FFU capacity, FFU dimensions, tool size, and tool height. With the exception of FFU coverage, it was determined that these parameters do not have a significant impact on the spread of smoke, heat and toxic gases in the Fab. Percentages greater than 25% of the FFUs will result in a smaller region of smoke spread.

Conclusions

Based on these results, Jensen Hughes finds that an egress distance of 300 ft. in a generic H5 fabrication design will meet the intent of the IBC where safe egress conditions exist, provided that the minimum design parameters for building width, square footage, ceiling height, and ventilation rate are met. Therefore, the increased travel distance of 300 ft. (91.5 m) is acceptable and will not impact the safety of occupants in the event that emergency evacuation during a fire is necessary.

Bibliography: H5 Timed Egress Analysis, Performance-Based Design Study for Increasing the Maximum Exiting Distance for a Generic Semiconductor Fabrication Facility, Jensen Hughes, 2021.

Cost Impact: The code change proposal will decrease the cost of construction
Increasing the maximum exit access travel distance permits more efficient use of the area of the building.

E86-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that they did not have the expertise to make the decision on hazards associated with H-5. This should have a third party review. (Vote: 13-0)

E86-21

Individual Consideration Agenda

Public Comment 1:

Proponents: William Koffel, representing Semiconductor Industry Association (wkoffel@koffel.com) requests As Submitted

Commenter's Reason: The Committee voted for Disapproval of E86-21 because they "felt that they did not have the expertise to make the decision on hazards associated with H-5. This should have a third party review."

Based upon the Committee reason for Disapproval, SIA retained Arup to review the report prepared by Jensen Hughes. One of the specific questions raised by the Committee was whether the modeling that was document in the Jensen Hughes report were the appropriate analytical tools to be used. In response to that question, Arup commented "that the simulation tools used to estimate RSET vs ASET as part of the study to support the code change are appropriate."

During the Committee Hearings it was noted that the modeling included several conservative assumptions. Arup reviewed the significant assumptions and offered the following comments:

- "We have found that the simplifications made in the construction of the geometric model are based on industry standard and reasonable engineering judgement. The models are simplified but are understood to capture the physics of fire effects and evacuation movement within the simulated space sufficiently."
- With respect to the occupant load, Arup stated that the approached used "likely overestimates the actual occupant loads on all levels of a typical fab facility and leads to conservative estimations of the RSET and is conservative and appropriate."
- With respect to the three fire scenarios that were evaluated, Arup stated that "Based on typical materials used in construction of the fabrication tools and the fact that raw material feeds were assumed to be interlocked to pause upon detection of an abnormal condition, we believe that the design fire was sized to represent a conservative fire scenario. The multiple locations of the design fire also allow an analysis of fire effects through the fab floor."
- With respect to the criteria used for the tenability analysis, Arup stated that "We agree with the chosen tenability criteria and their tenability limits to be in accordance with reasonable engineering judgement based upon literature data."

Overall, Arup summarized that they agree "with Jensen Hughes' approach using computational fire effects and evacuation modeling to model the RSET vs ASET at a generic Group H-5 semiconductor fabrication facility. We found the analysis to have been completed in accordance with industry standard practice and is based upon sound engineering judgement. The assessment provides appropriate justification to support the proposed Group H-5 code proposal and the corresponding conditions in order to increase the maximum allowable exit access travel distance from 200 feet to 300 feet."

A copy of the complete Hughes report and Arup review will be made available to any interested parties.

In summary the technical justification for E86-21 is based upon:

- A project initiated and sponsored by the Semiconductor Industry Association Code Committee with technical support from their consultant, Koffel Associates.
- An independent quantitative analysis by a second fire protection engineering firm, Jensen Hughes.
- As requested by the Committee, a third party review by a third firm that offers fire protection engineering services, Arup.

The proponent, the SIA, has done what the Committee requested and therefore we request that the ICC membership approve E86-21 as submitted.

Bibliography: SIA Egress Study Third Party Peer Review Report, Arup, dated June 29, 2021

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction

The proposal and public comment result in an optional increase in travel distance and as such, the cost of construction will decrease.

Public Comment# 2772

Proposed Change as Submitted

Proponents: Stephen Thomas, Colorado Code Consulting, a Shums Coda Assoc Company, representing Colorado Chapter ICC (stthomas@coloradocode.net); Timothy Pate, representing Colorado Chapter Code Change Committee (tpate@broomfield.org)

2021 International Building Code

Revise as follows:

1020.2 Construction. Corridors shall be fire-resistance rated in accordance with Table 1020.2. The *corridor* walls required to be fire-resistance rated shall comply with Section 708 for *fire partitions*.

Exceptions:

1. A *fire-resistance rating* is not required for *corridors* in an occupancy in Group E where each room that is used for instruction has not less than one door opening directly to the exterior and rooms for assembly purposes have not less than one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A *fire-resistance rating* is not required for *corridors* contained within a *dwelling unit* or *sleeping unit* in an occupancy in Groups I-1 and R.
3. A *fire-resistance rating* is not required for *corridors* in *open parking garages*.
4. ~~A *fire-resistance rating* is not required for *corridors* in an occupancy in Group B that is a space requiring only a single means of egress complying with Section 1006.2.~~ A fire-resistance rating is not required for corridors located within an individual tenant space.
5. *Corridors* adjacent to the *exterior walls* of buildings shall be permitted to have unprotected openings on unrated *exterior walls* where unrated walls are permitted by Table 705.5 and unprotected openings are permitted by Table 705.8.

Reason: Providing a fire-rated corridor within a single tenant space is very difficult and very seldom required. However, the existing language would require a rated corridor if the occupant load exceeds those outlined in Table 1020.2 and the building is not provided with a fire sprinkler system. Most jurisdictions do not enforce this requirement on the individual tenant space. It is also a maintenance and inspection issue for fire departments. If the internal corridor within a space is required to be fire-resistant rated, all of the doors are required to be 20-minute doors and they must be self-closing. No one wants their private office door closed all of the time, so they are typically propped open eliminating any protection. This proposal provides language that allows what is currently common practice in the design of tenant spaces.

Cost Impact: The code change proposal will decrease the cost of construction

For those areas where jurisdictions are requiring the rated corridors, the cost of constructing non-rated corridor will be less than the rated corridors.

E90-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because this would allow for unrated corridors in tenant spaces of any size, including large one tenant buildings without sprinklers. This would conflict with Table 1020.2. (Vote: 8-6)

E90-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1020.2 (IFC:[BE]1020.2)

Proponents: Stephen Thomas, representing Colorado Chapter ICC (stthomas@coloradocode.net) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1020.2 Construction . Corridors shall be fire-resistance rated in accordance with Table 1020.2. The *corridor* walls required to be fire-resistance rated shall comply with Section 708 for *fire partitions*.

Exceptions:

1. A *fire-resistance rating* is not required for *corridors* in an occupancy in Group E where each room that is used for instruction has not less than one door opening directly to the exterior and rooms for assembly purposes have not less than one-half of the required means of egress doors opening directly to the exterior. Exterior doors specified in this exception are required to be at ground level.
2. A *fire-resistance rating* is not required for *corridors* contained within a *dwelling unit* or *sleeping unit* in an occupancy in Groups I-1 and R.
3. A *fire-resistance rating* is not required for *corridors* in *open parking garages*.
4. A fire-resistance rating is not required for corridors located within ~~an individual tenant space~~ a single-tenant office space having an occupant load of 100 or less.
5. *Corridors* adjacent to the *exterior walls* of buildings shall be permitted to have unprotected openings on unrated *exterior walls* where unrated walls are permitted by Table 705.5 and unprotected openings are permitted by Table 705.8.

Commenter's Reason: The committee agreed with the concept but felt that our proposal was too broad. They suggested limiting the use of the exception to just office spaces and to limit the occupant load where it could be used. Therefore, we have revised the proposal to address their concerns. We have added the term single-tenant office to the language and limited the occupant load to 100 or less. We believe that this is a reasonable limitation for this exception. Occupants of these spaces are familiar with their surroundings and alert. It is the intent of this provision that a single tenant be limited to an area occupied under a single management and work the same hours. The concept is that people under the same employ working the same hours would likely be familiar with their entire tenant space. They are typically well within the required travel distance. The fire record for office uses is very good already. This will not lessen the life-safety aspects of an office tenant space. This will also eliminate an enforcement issue for these types of uses.

The current language would require a rated corridor within a single-tenant office space when the occupant load exceeds 30. This would require 1-hour fire partitions to be constructed. It would also require rated doors on each individual office or room opening into that corridor. Those doors are required to be self-closing and self-latching with smoke and draft control. The problem is that people don't want their private office doors closed all of the time. So, they prop them open which violates the code. The fire official then conducts an inspection and requires the tenant to close all of the doors. As soon as they leave, the doors are propped open again. It is a viscous cycle and wastes the fire officials time.

NFPA 101 Life Safety Code has a similar exception for a space occupied by a single tenant without an occupant load limitation. We are not aware of any issue with this exception where that code is enforced.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction

If a corridor is no longer required within a single office tenant space the fire protection requirements will not need to be met and those additional costs will not be applicable.

Public Comment# 2411

Proposed Change as Submitted

Proponents: David Renn, PE, SE, City and County of Denver, representing Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2021 International Building Code

Revise as follows:

1023.5 Penetrations. Penetrations into or through *interior exit stairways* and *ramps* are prohibited except for the following:

1. Equipment and ductwork necessary for independent ventilation or pressurization.
2. *Fire protection systems.*
3. Security systems.
4. Two-way communication systems.
5. Electrical raceway for fire department communication systems.
6. Electrical raceway serving the *interior exit stairway* and *ramp* and terminating at a steel box not exceeding 16 square inches (0.010 m²).
7. Structural elements ~~supporting the interior exit stairway or ramp or enclosure~~, such as beams or joists.

Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communication openings, whether protected or not, between adjacent interior exit *stairways* and *ramps*.

Exception: *Membrane penetrations* shall be permitted on the outside of the *interior exit stairway* and *ramp*. Such penetrations shall be protected in accordance with Section 714.4.2.

1024.6 Penetrations. Penetrations into or through an *exit passageway* are prohibited except for the following:

1. Equipment and ductwork necessary for independent ventilation or pressurization.
2. *Fire protection systems.*
3. Security systems.
4. Two-way communication systems.
5. Electrical raceway for fire department communication.
6. Electrical raceway serving the *exit passageway* and terminating at a steel box not exceeding 16 square inches (0.010 m²).
7. Structural elements such as beams and joists.

Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communicating openings, whether protected or not, between adjacent exit passageways.

Exception: *Membrane penetrations* shall be permitted on the outside of the *exit passageway*. Such penetrations shall be protected in accordance with Section 714.4.2.

Reason: Item 7 for structural element penetrations in interior exit stairways and ramps was added in the last code cycle with the intent of matching the allowance for structural element penetrations in shaft enclosures. The reason statement for this change (E98-18) stated that the proposed language is verbatim to that found in Section 713.8 for shaft enclosures. However, the wording was actually changed from "Structural elements, such as beams or joists" to "Structural elements supporting the *interior exit stairway* or *ramp* or enclosure, such as beams or joists". The effect of requiring the structural element to support the stairway, ramp or enclosure is that floor or landing beams and joists are allowed to penetrate stairway enclosures, but roof beams and joists are not. Since fire barriers that form the enclosure are required to continue to the underside of the roof deck or sheathing, it is necessary to include roof beams and joists as allowed penetrations since these are no more hazardous than the floor or landing penetrations. This proposal does this by simply removing the language that is different from the language in Section 713.8 for shaft enclosures. This proposal also adds this same Item 7 to the list of allowed penetrations in exist passageways. The intent of the code is that allowed penetrations are the same for interior exit stairways and ramps and exit passageways, since these are all protected exit elements.

Cost Impact: The code change proposal will decrease the cost of construction

This proposal will allow structural penetrations that currently not allowed, which will simplify framing at exit enclosures, thus reducing cost of construction.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because the result would be a mishmash between rating of stairway enclosure and construction ratings. The current text is only for supporting the stair, not all construction. The proposal did not limit this to roof members which is what the proponent said his concern was. (Vote: 14-0)

E96-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1023.5, 1024.6 (IFC:[BE]1023.5, 1024.6)

Proponents: David Renn, City and County of Denver, representing Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1023.5 Penetrations . Penetrations into or through *interior exit stairways* and *ramps* are prohibited except for the following:

1. Equipment and ductwork necessary for independent ventilation or pressurization.
2. *Fire protection systems.*
3. Security systems.
4. Two-way communication systems.
5. Electrical raceway for fire department communication systems.
6. Electrical raceway serving the *interior exit stairway* and *ramp* and terminating at a steel box not exceeding 16 square inches (0.010 m²).
7. Structural elements supporting the *interior exit stairway* or *ramp* or enclosure, such as beams or joists.
8. Structural elements supporting a roof at the top of the *interior exit stairway* or *ramp*, such as beams or joists.

Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communication openings, whether protected or not, between adjacent *interior exit stairways* and *ramps*.

Exception: *Membrane penetrations* shall be permitted on the outside of the *interior exit stairway* and *ramp*. Such penetrations shall be protected in accordance with Section 714.4.2.

1024.6 Penetrations . Penetrations into or through an *exit passageway* are prohibited except for the following:

1. Equipment and ductwork necessary for independent ventilation or pressurization.
2. *Fire protection systems.*
3. Security systems.
4. Two-way communication systems.
5. Electrical raceway for fire department communication.
6. Electrical raceway serving the *exit passageway* and terminating at a steel box not exceeding 16 square inches (0.010 m²).
7. Structural elements supporting a floor or roof at the top of the *exit passageway*, such as beams and joists.

Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communicating openings, whether protected or not, between adjacent *exit passageways*.

Exception: *Membrane penetrations* shall be permitted on the outside of the *exit passageway*. Such penetrations shall be protected in accordance with Section 714.4.2.

Commenter's Reason: The main opposition to the original proposal was that the language was wide open as to what structural elements would be allowed to penetrate an enclosure. However, the actual intent of the proposal was to allow structural elements that support the roof or floor at the top of an enclosure to penetrate the enclosure. This public comment modification limits the newly allowed penetrations to the intended elements as follows:

- In 1023.5 for interior exit stairways and ramps, the current requirement in Item 7 that the structural elements must support the interior exit stairway or ramp or enclosure is added back in.
- A new Item 8 is then added for structural elements supporting a roof at the top of the interior exit stairway or ramp. Note that this item does not include floors at the top of an interior exit stairway or ramp (where an enclosure stops at a floor instead of a roof) since the floor would be part of the enclosure and structural elements supporting this floor are already allowed by Item 7.
- In 1024.6 for exit passageways, Item 7 is modified by adding a requirement that the structural elements must support a floor or roof at the top of the exit passageway. Floors and roofs are included here since exit passageways don't have an item that covers structural elements that support the enclosure like the interior exit stairways and ramps section does (1023.5 Item 7).

The above changes are consistent with the intent of the code that penetrations are permitted for items that serve the enclosure or are needed for construction of the enclosure.

Another concern raised is that this proposal would allow penetrations by structural elements that may have a fire-resistance rating that is less than required for the enclosure. This concern is not valid as this proposal does not change supporting construction requirements for enclosure walls (Section 707.5.1 for fire barriers), so any member that supports the walls, or supports floors that then support the walls, are required to have a rating that is equal to or greater than the rating of the enclosure. Furthermore, where a floor forms the top of the enclosure it is required to have a rating equal to or greater than the enclosure, and the supporting construction requirements for horizontal assemblies (Section 711.2.3) requires the beams or joists that support this assembly to have a rating equal to or greater than the horizontal assembly.

Another item discussed is that Item 7 in 1023.5 was originally added in the 2021 IBC to address platform framing. While Item 7 does address platform framing at floor levels, it does not address platform framing at the roof of an enclosure since these roof beams and joists do not support the enclosure. This proposal would allow platform framing of the roof, which is the logical method of framing the roof if the floors are constructed in this manner. To require the roof to be framed in a different manner than the floors is not reasonable and may be difficult and costly to accomplish. Furthermore, the newly allowed penetrations at the roof level are less hazardous than the floor level penetrations since a premature failure of these penetrations would not immediately affect egress since the smoke and/or fire at the failed penetrations are above the egress path, while the floor penetrations are within the egress path.

Please consider approval of this proposal as modified by this public comment.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction

This proposal and public comment modification will allow structural penetrations that are currently not allowed, which will simplify framing at exit enclosures, thus reducing the cost of the construction.

Public Comment# 2497

Proposed Change as Submitted

Proponents: Lee Kranz, representing Washington Association of Building Officials Technical Code Development Committee (lkranz@bellevuewa.gov); Micah Chappell, representing Washington Association of Building Officials (micah.chappell@seattle.gov)

2021 International Building Code

Revise as follows:

1023.7 Interior exit stairway and ramp exterior walls. *Exterior walls of the interior exit stairway or ramp shall comply with the requirements of Section 705 for exterior walls. Where nonrated walls or unprotected openings enclose the exterior of the stairway or ramps and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), building construction within 10 feet of the exterior walls of the interior exit stairway or ramp shall comply with Section 1023.7.1 and 1023.7.2. ~~the building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a fire resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than ¾ hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or ramp, or to the roof line, whichever is lower.~~*

Add new text as follows:

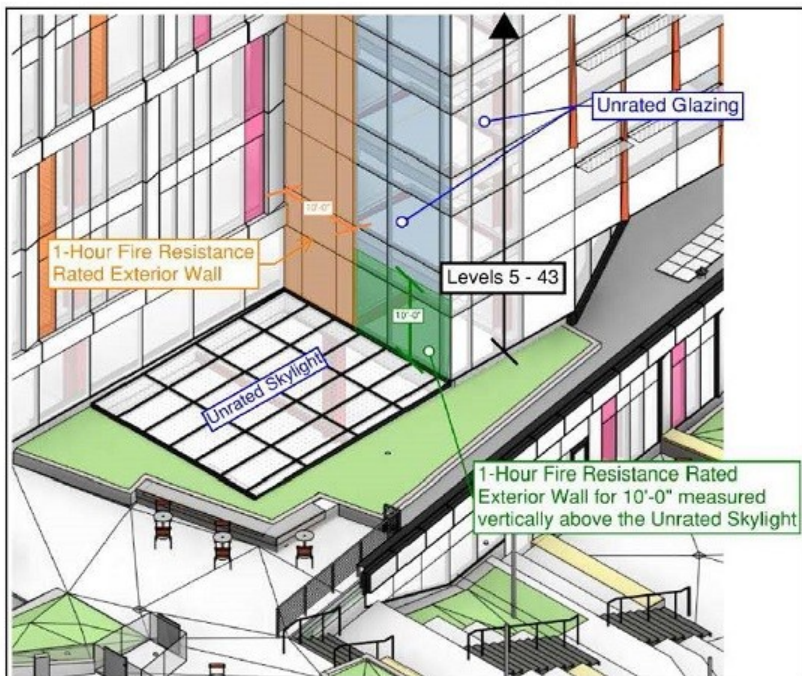
1023.7.1 Building exterior walls.

Building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening in an exterior exit stairway or ramp shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than ¾ hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or ramp, or to the roof line, whichever is lower.

1023.7.2 Roof assemblies.

Where the interior exit stairway or ramp extends above a roof, the lower roof assembly shall have a fire resistance rating of not less than 1 hour and openings shall be protected by opening protectives having a fire protection rating of not less than ¾ hour. The fire resistance rating and opening protection shall extend horizontally a minimum of 10 feet (3048 mm) from the exterior wall of the stairway or ramp, or to the perimeter of the lower roof, whichever is less.

Reason: This code change is needed to address designs where nonrated exterior walls of an interior exit stairway or ramp are adjacent to nonrated roof assemblies which may also have unprotected openings within 10 feet of the exterior walls of the stairway or ramp. As you can see in the attached illustration, the unrated glazed exterior wall of the interior exit stairway is directly adjacent to an unprotected skylight in the roof of a lobby below. The designer agreed to protect the exterior wall of the stairway for 10 feet above the skylight but currently there is no language in the code to require it. This proposal provides more comprehensive protection for one of the most important egress elements in Chapter 10, interior exit stairways and ramps.



Cost Impact: The code change proposal will increase the cost of construction

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because there are issues with the language. This proposal missed the option to rate the exterior walls 10 feet up or the roof 10 feet out from the opening. The language in Section 1023.7.2 does not limit the roof to that near the area of concern. (Vote: 10-4)

Individual Consideration Agenda

Public Comment 1:

IBC:1023.7.1, 1023.7.2 (IFC:[BE]1023.7.1, 1023.7.2)

Proponents: Lee Kranz, representing Washington Association of Building Officials Technical Code Development Committee (lkranz@bellevuewa.gov); Micah Chappell, representing Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1023.7 Interior exit stairway and ramp exterior walls . *Exterior walls* of the *interior exit stairway or ramp* shall comply with the requirements of Section 705 for *exterior walls*. Where nonrated walls or unprotected openings enclose the exterior of the *stairway or ramps* and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), building construction within 10 feet of the exterior walls of the interior exit stairway or ramp shall comply with Section 1023.7.1 and 1023.7.2.

1023.7.1 Building exterior walls . Building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening in an ~~exterior~~ interior exit stairway or ramp shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or ramp, or to the roof line, whichever is lower.

1023.7.2 Roof assemblies . Where the interior exit stairway or ramp extends above ~~a~~ an adjacent roof of the same building, the ~~lower adjacent~~ lower adjacent roof assembly shall have a fire resistance rating of not less than 1 hour and openings shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. The fire resistance rating and opening protection shall extend horizontally a minimum of 10 feet (3048 mm) from the exterior wall of the stairway or ramp, or to the perimeter of the ~~lower adjacent~~ lower adjacent roof, whichever is less.

Exceptions:

1. The roof assembly need not be rated and openings in the roof need not be protected where they are adjacent to the penthouse of the stairway or ramp, unless otherwise required by this code.
2. The adjacent roof assembly need not be rated and adjacent openings in the roof need not be protected where the exterior wall of the stairway or ramp has a fire-resistance rating of 1 hour and openings are protected by opening protectives having a fire protection rating of not less than 3/4 hours, extending a minimum of 10 feet (3048 mm) above the roof.

Commenter's Reason: Where an interior exit stairway or ramp is located at the perimeter of a building, it is subject to risk from fire or smoke from other parts of the building. Section 1023.7 requires protection of the vertical walls and openings adjacent to the enclosure wall(s) less than angles of 180 degrees to the enclosure walls but does not address designs where the enclosure could be exposed to fire or smoke from adjacent roof assemblies.

E97-21 is intended to provide clear direction on measures to keep fire and smoke away from enclosed stairways or ramps in order to maintain tenability of the enclosures. Most, if not all, building and fire officials would agree that the risk of fire or smoke from a roof assembly that is part of, and adjacent to, a stair or ramp enclosure is greater than that from an adjacent wall assembly so it makes sense to include these provisions in the

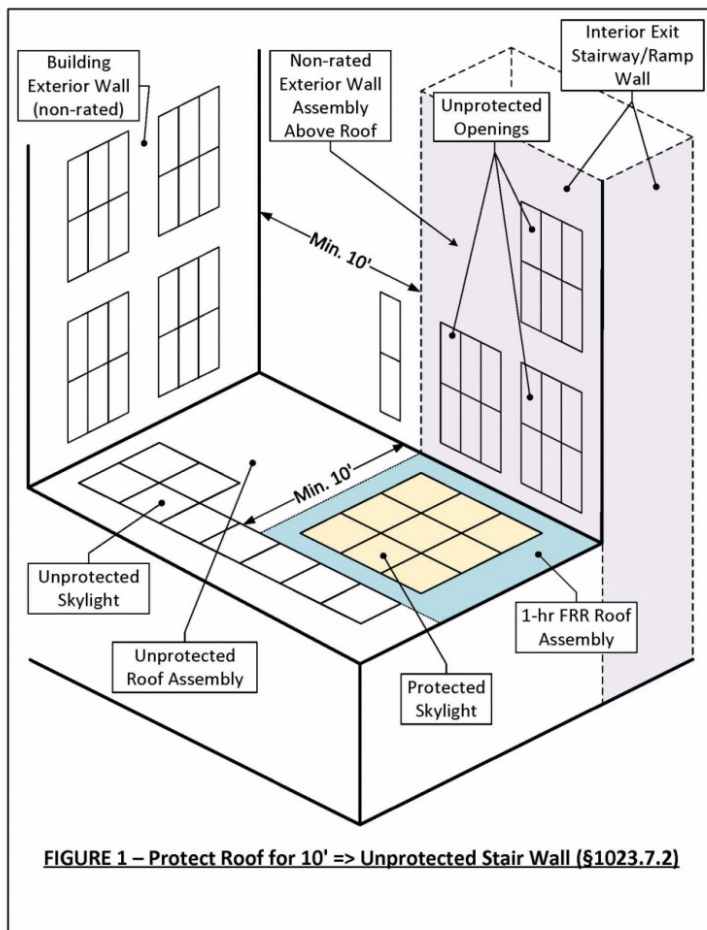
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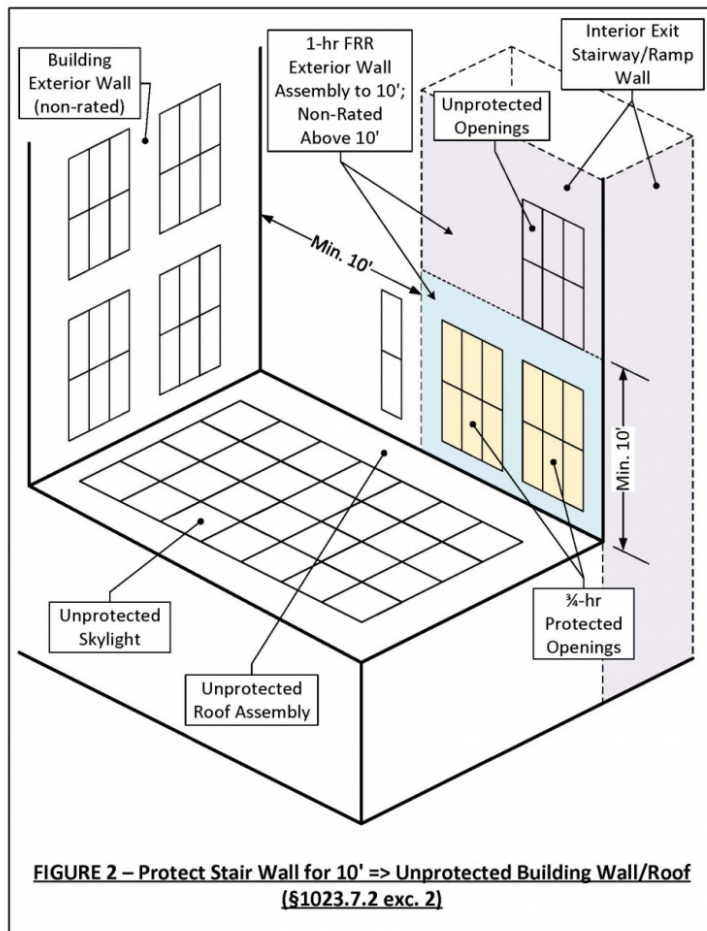
There were constructive suggestions provided by members of the Egress Committee, proponents and opponents during and after the Committee Action Hearings and this public comment has been revised to include those valuable suggestions. The changes contained in this public comment include:

- 1) clear language that either the exterior wall and openings of the enclosure must be protected or protect the adjacent building wall and/or roof assembly (see Section 1023.7.2, Exception 2, and Figures 1 and 2 below);
- 2) clarify in the charging language of Section 1023.7.2 that the protection of roof assemblies only applies when it is part of the same building in which the enclosure is located; and
- 3) exempt roof assemblies adjacent to penthouse structures covering stair or ramp enclosures (see Section 1023.7.2, Exception 1).

We also addressed an error we discovered in 1023.7.1 that mistakenly referred to exterior exit stairways and ramps. It has been corrected to refer to interior exit stairways and ramps.

Figure 1 below illustrates the base requirement in Section 1023.7.2, that the roof assembly and openings in the roof must be protected within 10 feet of the wall of the stairway or ramp enclosure. Figure 2 illustrates the option provided in Section 1023.7.2, Exception 2, allowing protection of the stairway/ramp enclosure wall to a height of 10 feet above the adjacent roof in lieu of protecting the roof assembly. These figures, or something similar, could be included in the IBC Commentary to help code users understand and apply these important passive life safety provisions.





In response to a comment we received after the Committee Action Hearings, the requirement for 10 feet of protection above the roof for the stair enclosure wall in 1023.7.2, Exception 2 is consistent with the extent of vertical protection requirements for other components of the means of egress in the current code:

- Protection of the stair enclosure near building exterior walls (IBC 1023.7)
- Protection for exterior areas for assisted rescue (IBC 1009.7.2)
- Protection for exit passageways (IBC 1024.8)
- Protection for exit courts (IBC 1029.3).

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction

In some cases, roof assemblies adjacent to interior exit stairways or ramps, or the exterior wall of interior exit stairways or ramps will be required to be 1 hour rated with 3/4 hour rated openings. This will increase the cost of construction when these rated assemblies are provided.

Public Comment# 2362

Proposed Change as Submitted

Proponents: Jeffrey S. Grove, P.E. FSFPE, Jensen Hughes, representing Jensen Hughes (jgrove@jensenhughes.com)

2021 International Building Code

Revise as follows:

1024.3 Construction. Exit passageway

enclosures shall have walls, floors and ceilings of not less than a 1-hour *fire-resistance rating*. ~~The fire-resistance rating of the exit passageway, where extending an exit enclosure from or between interior exit stairways or ramps, shall not be less than that required for the and not less than that required for any connecting interior exit stairway or ramp.~~ Exit passageways shall be constructed as *fire barriers* in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both.

Reason: It is clearly the intent of the Code that an exit passageway may be of minimum one-hour fire-resistance rating, regardless of the type of construction or number of stories in a building. The Code Commentary already states that "Where extending an enclosure for an exit stairway, the rating must not be less than the enclosure for the exit stairway so that the degree of protection is kept at the same level." This proposal is intended to clarify these code provisions. For example, a one-hour fire-resistance rated exit passageway could be utilized on the fifth story of a building. This passageway would then connect to a two-hour fire-resistance rated interior exit stairway or ramp. If a horizontal offset would be required for that interior exit stairway or ramp, the required exit passageway would be required to be two-hour fire-resistance rated.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change is a clarification that has no impact to the cost of construction.

E98-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the exit passageway need to be connected to the exit stairway, not just anywhere in the building. (Vote: 12-2)

E98-21

Individual Consideration Agenda

Public Comment 1:

Proponents: Jeffrey Grove, representing Jensen Hughes (jgrove@jensenhughes.com) requests As Submitted

Commenter's Reason: The purpose of this code change proposal was simply to indicate that an exit passageway, when required for travel distance or some other reason, is only required to be one-hour fire-resistive rated, regardless of which story the exit passageway is located, or the type of construction. There are many times that this is misinterpreted that if you are located in a Type I building, or several stories up in a structure, that the exit passageway must be two-hour rated.

The second part of the proposal clarifies that if the exit passageway is required to extend an interior exit stairway or ramp, that exit passageway must be at least same rating as that stairway or ramp. The proposal does not change these current requirements in any way.

The committee seemed to misunderstand that the purpose of this proposal was trying to change the current requirements of the required rating of an exit passageway when extending an interior exit stairway or ramp. The committee chair used a specific example that reinforced the purpose of this proposal and not the extension of the exit enclosure. One of the committee members also had an issue with removing the word "connecting". However, as noted in the proposal, the word "extending" was utilized to achieve the same purpose.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction
This code change is a clarification that has no impact to the cost of construction.

E100-21

Proposed Change as Submitted

Proponents: Lee Kranz, City of Bellevue, WA, representing Myself (lkranz@bellevuewa.gov)

2021 International Building Code

Revise as follows:

1027.2 Use in a means of egress. *Exterior exit stairways* shall not be used as an element of a required *means of egress* for Group I-2 occupancies. For occupancies in other than Group I-2, *exterior exit stairways* and *ramps* shall be permitted as an element of a required *means of egress* for buildings not exceeding six stories above grade plane ~~or that are not high-rise buildings.~~

Reason: The current language in Section 1027.2 is confusing because the two test cases overlap. The first test to determine if an *exterior exit stairway* can be used as an element of a required means of egress applies to buildings not exceeding 6-stories above grade plane. The second test is that the building cannot be a high-rise. There is no clear direction if it is permissible to use an *exterior exit stairway* for a 7 or 8-story building that does not meet the definition of a high-rise building. Deleting the high-rise test, which is more liberal than the 6-story test, appears to be the best course of action.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification only. It shouldn't impact the cost of construction.

E100-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the committee felt that both thresholds - 6 stories above grade plane and highrise- were needed to address sloped sites. (Vote: 14-0)

E100-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1027.2 (IFC:[BE]1027.2)

Proponents: Julius Carreon, representing Washington Association of Building Officials Technical Code Development Committee (jcarreon@bellevuewa.gov); Micah Chappell, representing Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1027.2 Use in a means of egress . *Exterior exit stairways* shall not be used as an element of a required *means of egress* for Group I-2 occupancies. For occupancies in other than Group I-2, *exterior exit stairways* and *ramps* shall ~~be permitted~~ not be used as an element of a required *means of egress* for buildings ~~not exceeding~~ six stories above grade plane or that are high-rise buildings.

Commenter's Reason: The original code change proposal of deleting the high-rise test case was disapproved because the committee felt that both thresholds - six stories above grade plane and high rise were needed. This public comment addresses both the committee's concerns and the confusion created by the current language in Section 1027.2. The current language could be interpreted such that only one of the two test cases is needed to permit the exterior exit stairways and ramps as an element of a required means egress for the building.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction
This is a clarification only. It shouldn't impact the cost of construction.

E102-21

Proposed Change as Submitted

Proponents: Homer Maiel, PE, CBO, representing ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay) (hmaiel@gmail.com)

2021 International Building Code

Revise as follows:

1027.5 Location. *Exterior exit stairways and ramps* shall have a minimum *fire separation distance* of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway or ramps*, including landings, to:

1. Adjacent *lot lines*.
2. Other portions of the building.
3. Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.
4. The centerline of a street, an alley or public way

For the purposes of this section, other portions of the building shall be treated as separate buildings.

Exception: *Exterior exit stairways and ramps* serving individual *dwelling units* of Group R-3 shall have a minimum *fire separation distance* of 5 feet (1525 mm).

Reason: An exterior exit stairway maybe less than 10 feet from the public sidewalk or street. Without New Exception 4, that will not be allowed.

Cost Impact: The code change proposal will decrease the cost of construction
This will allow the exterior stairs to be allowed next to public right of way with no restrictions.

E102-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The current language requires measurement to all of the items, so you would never get to the center of the public way in new item 4 because this would always be past the adjacent lot line in existing item 1. The proponent needs to fix this in the base paragraph. The definition of 'fire separation distance' includes the center line of a public way, so that phrase is not needed. (Vote: 11-3)

E102-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1027.5 (IFC:[BE] 1027.5)

Proponents: Homer Maiel, representing ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay) (hmaiel@gmail.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1027.5 Location . *Exterior exit stairways and ramps* shall have a minimum *fire separation distance* of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway or ramps*, including landings, to one of the following:

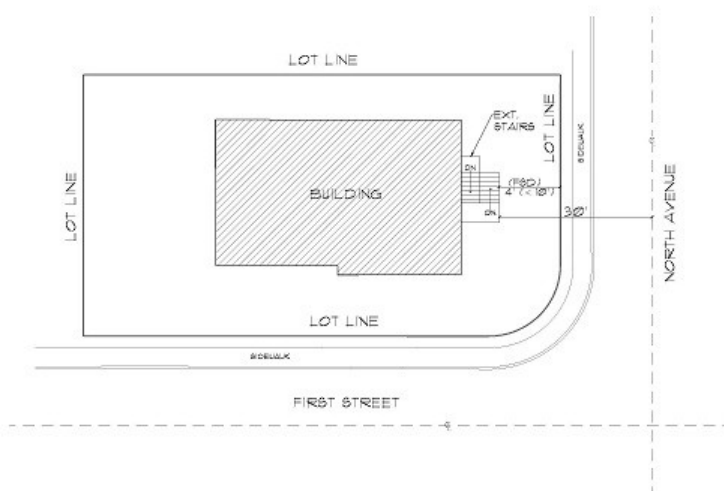
1. Adjacent *lot lines*.

2. Other portions of the building.
3. Other buildings on the same lot unless the adjacent building *exterior walls* and openings are protected in accordance with Section 705 based on *fire separation distance*.
4. The centerline of a street, an alley or public way

For the purposes of this section, other portions of the building shall be treated as separate buildings.

Exception: *Exterior exit stairways and ramps* serving individual *dwelling units* of Group R-3 shall have a minimum *fire separation distance* of 5 feet (1525 mm).

Commenter's Reason: A comment from committee was that newly introduced condition #4 is already covered in #3 under the definition of fire separation distance. That is not true. #3 only covers buildings on the same lot not the condition in #4. Figure below is provided for more clarification. As you see the FSD from the stairs is only 4'. Without #4, I either can not have the stairs or have to create an enclosure. With inclusion of #4, I can measure to center of the street or alley which is 30 feet away



Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction. This will allow exterior stairs to be built next to public-right-of-way with no additional restriction.

Public Comment# 2558

Proposed Change as Submitted

Proponents: Jeffrey S. Grove, P.E. FSFPE, Jensen Hughes, representing Jensen Hughes (jgrove@jensenhughes.com)

2021 International Building Code

Revise as follows:

1028.2 Exit discharge. *Exits* shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including *atriums*, on the level of discharge provided that all of the following conditions are met:
 - 1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior *exit* door and such *exit* is readily visible and identifiable from the point of termination of the enclosure.
 - 1.2. The entire area of the *level of exit discharge* is separated from areas below by construction conforming to the *fire-resistance rating* for the enclosure.
 - 1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system*. Portions of the *level of exit discharge* with access to the egress path shall be either equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps*.
 - 1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the *exit discharge* door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the *exit discharge* door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the *exit access ramp*.
2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp enclosure*.
 - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
 - 2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708.

Exception: The maximum transmitted temperature rise is not required.

 - 2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the building.
4. Exit discharge onto the roof of the same building or an adjoining building is permitted when all of the following criteria are met:
 - 4.1. The roof assembly has the same fire resistance rating required for the exit enclosure.
 - 4.2. A continuous path of egress travel is provided to a public way.

Reason: The code addresses exit discharge that is adjacent to building areas, in which case one hour rated separation of the exit discharge may be required (see 1028.4). This code change proposal extends that concept to exit discharge that is above other building areas. It is not unusual for buildings in urban areas to have below-grade parking garages that have a larger footprint than the above-grade portions of the building. Having an exit discharge onto the below-grade "roof" would be prohibited by 1028.1 because the roof of the parking garage is not "grade".

This exception would permit exit discharge onto the roof of the below-grade parking garage provided that the roof has the same fire resistance rating as the exit.

The NFPA Life Safety Code has a similar provision in section 7.7.6.

Cost Impact: The code change proposal will decrease the cost of construction

This code change proposal would reduce the cost of construction because it would allow greater flexibility in building design. Thus, land could be used more efficiently.

E104-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved. The committee felt this was a good idea, but had several issues that need to be addressed. The use of 'adjoining' roof could be a building that was not the same owner - so the exit off the roof could be locked or blocked. The proponent said this was for podium buildings, but the language would allow this for all buildings. If this is a two story building over a parking garage, there could be unrated exit access stairways in the building, so the roof people were exiting over would have no rating. What happens if the discharge can be to ground level but not to a public way? This could be a problem with landscaped roofs because the occupants could assume they were at grade when they were still on the roof. (Vote: 12-2)

E104-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1028.2 (IFC:[BE]1028.2)

Proponents: Jeffrey Grove, representing Jensen Hughes (jgrove@jensenhughes.com) requests As Modified by Public Comment

Further modify as follows:

2021 International Building Code

1028.2 Exit discharge . *Exits* shall discharge directly to the exterior of the building. The *exit discharge* shall be at grade or shall provide a direct path of egress travel to grade. The *exit discharge* shall not reenter a building. The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required *exits*.

Exceptions:

1. Not more than 50 percent of the number and minimum width or required capacity of *interior exit stairways* and *ramps* is permitted to egress through areas, including *atriums*, on the level of discharge provided that all of the following conditions are met:
 - 1.1. Discharge of *interior exit stairways* and *ramps* shall be provided with a free and unobstructed path of travel to an exterior *exit* door and such *exit* is readily visible and identifiable from the point of termination of the enclosure.
 - 1.2. The entire area of the *level of exit discharge* is separated from areas below by construction conforming to the *fire-resistance rating* for the enclosure.
 - 1.3. The egress path from the *interior exit stairway* and *ramp* on the *level of exit discharge* is protected throughout by an *approved automatic sprinkler system*. Portions of the *level of exit discharge* with access to the egress path shall be either equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of *interior exit stairways* or *ramps*.
 - 1.4. Where a required *interior exit stairway* or *ramp* and an *exit access stairway* or *ramp* serve the same floor level and terminate at the same *level of exit discharge*, the termination of the *exit access stairway* or *ramp* and the *exit discharge* door of the *interior exit stairway* or *ramp* shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the *exit discharge* door from the *interior exit stairway* or *ramp* and the last tread of the *exit access stairway* or termination of slope of the

exit access ramp.

2. Not more than 50 percent of the number and minimum width or required capacity of the *interior exit stairways* and *ramps* is permitted to egress through a vestibule provided that all of the following conditions are met:
 - 2.1. The entire area of the vestibule is separated from areas below by construction conforming to the *fire-resistance rating* of the *interior exit stairway* or *ramp enclosure*.
 - 2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).
 - 2.3. The area is separated from the remainder of the *level of exit discharge* by a *fire partition* constructed in accordance with Section 708.

Exception: The maximum transmitted temperature rise is not required.

- 2.4. The area is used only for *means of egress* and *exits* directly to the outside.
3. *Horizontal exits* complying with Section 1026 shall not be required to discharge directly to the exterior of the building.
4. Exit discharge onto the roof of the same building ~~or an adjoining building~~ is permitted ~~when~~ where all of the following criteria are met:
 - 4.1. ~~The roof assembly has the same fire resistance rating required for the exit enclosure. The roof assembly shall have not less than a one hour fire resistance rating, and not less than the fire resistance rating required for the exit enclosure that discharges onto the roof.~~
 - 4.2. ~~A continuous path of egress travel is provided to a public way. There is a free and unobstructed path of travel to the public way.~~

Commenter's Reason: The code addresses exit discharge that is adjacent to building areas, in which case one hour rated separation of the exit discharge may be required (see 1028.4). This code change proposal extends that concept to exit discharge that is above other building areas. It is not unusual for buildings in urban areas to have below-grade parking garages that have a larger footprint than the above-grade portions of the building. Having an exit discharge onto the below-grade "roof" would be prohibited by 1028.1 because the roof of the parking garage is not "grade". This exception would permit exit discharge onto the "roof" of a below-grade parking garage provided that the roof has at least the same fire resistance rating as is required for the exit.

This change addresses the committee's comments by (1) removing the text that would have permitted exit discharge to be on the roof of an adjoining building and (2) providing a minimum required fire resistance rating for the roof.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction

This code change proposal would reduce the cost of construction because it would allow greater flexibility in building design. Thus, land could be used more efficiently

Public Comment# 2770

Proposed Change as Submitted

Proponents: Ali Fattah, City of San Diego Development Services Department, representing City of San Diego Development Services Department (afattah@sandiego.gov)

2021 International Building Code

Revise as follows:

1029.3 Construction and openings. Where an *egress court* serving a building or portion thereof is less than 10 feet (3048 mm) in width, the *egress court* walls shall have not less than 1-hour *fire-resistance-rated* construction for a distance of 10 feet (3048 mm) above the floor of the *egress court*. Openings within such walls shall be protected by opening protectives having a *fire protection rating* of not less than $\frac{3}{4}$ hour.

Exceptions:

1. *Egress courts* serving an *occupant load* of less than 10.
2. *Egress courts* serving Group R-3.
3. *Egress courts*, located at *grade*, which provide direct and unobstructed access to a *public way* through two or more independent paths. The required width or capacity shall be maintained along each path.

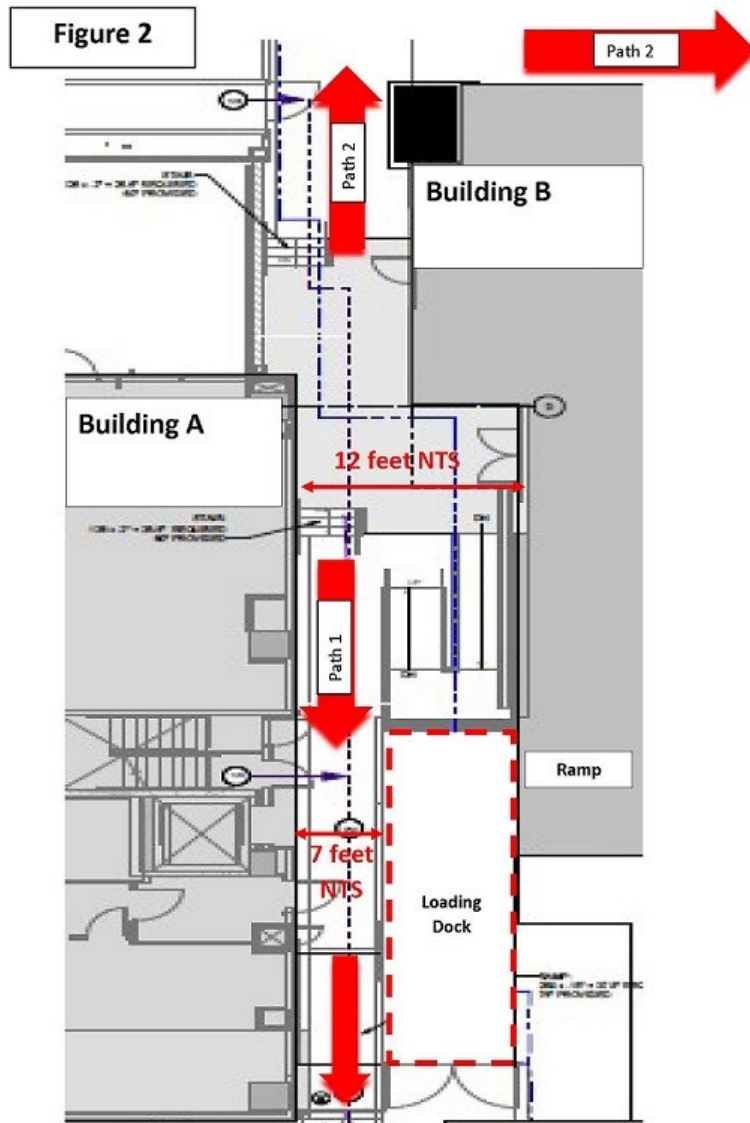
Reason: The proposed code change adds an exception to allow omission of opening protection from openings in walls adjacent to egress courts where occupants have access to the public way through two different paths, in other words from a yard designed to comply as an exit court that has two outlets. This will reduce the cost of construction and will allow design flexibility.

- Protection will not be diminished since the exterior walls for almost all buildings located at an FSD less than 10 feet will have a fire resistance of at least 1-hour and exterior wall openings will be restricted to 25% of the area of the wall (10% if not fire sprinklers).
- Additionally most buildings are protected with fire sprinkler systems and the IBC does account this additional level of protection.

This Code change recognizes the benefit of the egress path within an exit court being located far enough away from the building requiring the egress court. So by providing multiple paths occupants do not have to select the path that may have been compromised by fire in the building from which they accessed the egress court.

- The 2018 IBC commentary explains that an egress court, which is a portion of the exit discharge, is "A portion of the exit discharge that is partially confined by exterior walls or other elements that confine the discharge path to a single narrow route ..." This code change recognizes the benefits of multiple paths.
- The 2018 IBC Commentary on page 10-186 also includes a clarification that "The purpose of this section is to protect the occupants served by the egress court from the building that they are exiting. If occupants must walk closely by the exterior walls of the court, the walls are required to have the specified fire-resistance rating and the openings are required to be protected as specified." The proposed exception recognizes the benefits of two outlets from an exit court that does not require occupants to walk along a particular path.
- The 2018 IBC Commentary also explains that "An exit discharge component could be a large exterior open space where occupants could discharge in a number of different directions or it could be limited to a narrower path by landscaping or walls (i.e., egress court). In all cases, the space must be open enough to the outside that smoke and fumes will vent upward and away from occupants evacuating the building." The proposed exception allows the egress court with multiple outlets to be have like a surface parking lot in front of the building

In closing, if occupants have choices of paths it is reasonable to assume that one of the alternative paths will be available and provide safe access to the public way and therefore protection of the exit court is not required. See figure 2 attached for an illustration of this concept. We request that the Means of Egress Committee approve this sensible code change.



Cost Impact: The code change proposal will decrease the cost of construction
The proposed code change will reduce the need to add opening protectives at doors and windows along egress courts.

E105-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because this proposal does not indicate the larger of width versus capacity for the size. This could be read to be exempting rated walls and openings. The proposal seems to be assuming the buildings are sprinklered. (Vote: 12-1)

E105-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1029.3 (IFC:[BE]1029.3)

Proponents: Ali Fattah, representing City of San Diego Development Services Department (afattah@sandiego.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1029.3 Construction and openings . Where an *egress court* serving a building or portion thereof is less than 10 feet (3048 mm) in width, the *egress court* walls shall have not less than 1-hour *fire-resistance-rated* construction for a distance of 10 feet (3048 mm) above the floor of the *egress court*. Openings within such walls shall be protected by opening protectives having a *fire protection rating* of not less than $\frac{3}{4}$ hour.

Exceptions:

1. *Egress courts* serving an *occupant load* of less than 10.
2. *Egress courts* serving Group R-3.
3. *Egress courts*, located at *grade*, which provide direct and unobstructed access to a *public way* through two or more independent paths. The minimum width provided along each path shall be based on the required width or the required capacity, whichever is greater, and shall be maintained along each path.

Commenter's Reason: We request that the ICC Governmental Voting members overturn the committee decision for disapproval so that we can overcome the 2/3 vote hurdle necessary to consider approval as submitted with further modification per public comment. The Public Comment is submitted in response to feedback provided by the Means of Egress Committee which supported the code change in concept. While the reason statement intended to point out that most buildings will be protected with fire sprinklers and that the exterior walls located at a fire separation distance less than 10 ft will in the vast majority of cases be 1-hour fire resistant with a significant reduction in the permitted area of exterior wall openings. The proposed code change does not require the presence of fire sprinklers and recognizes the benefits of alternative paths regardless of the type of construction, occupancy and protection for the building. The example provided is intended to be illustrative of a condition that occurred in a local jurisdiction where the IBC was silent regarding the benefits of equivalent alternative paths to the public way. The net effect of the updates in the public comment ensure that the larger of the width or calculated capacity be provided along the alternative paths to the public way.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction. The proposed code change will not require opening protection when alternative paths are provided.

Public Comment# 2244

E107-21 Part I

Proposed Change as Submitted

Proponents: Marcelo Hirschler, GBH International, representing self (mmh@gbhint.com)

THIS IS A 3 PART CODE CHANGE. PART I WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. PART II WILL BE HEARD BY THE GENERAL CODE COMMITTEE. PART III WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

1030.1.1 Bleachers. *Bleachers, grandstands and folding and telescopic seating*, that are not building elements, shall comply with ICC 300, and shall be constructed of materials complying with Section 1030.1.1.1.

Add new text as follows:

1030.1.1.1 Materials of construction of bleachers, grandstands and folding and telescopic seating.

Bleachers, grandstands and folding and telescopic seating shall be constructed of materials that comply with either one of the following requirements:

1. Materials shall be noncombustible materials in accordance with Section 703.3.1.
2. Materials shall exhibit a Class C flame spread index and smoke developed index when tested in accordance with ASTM E84 or UL 723, with the test specimen remaining in place during the test, or shall comply with the requirements of Section 803.1.1.

Revise as follows:

~~1030.1.1.1~~ **1030.1.1.2 Spaces under grandstands and bleachers.** Spaces under *grandstands* or *bleachers* shall be separated by *fire barriers* complying with Section 707 and *horizontal assemblies* complying with Section 711 with not less than 1-hour *fire-resistance-rated* construction.

Exceptions:

1. Ticket booths less than 100 square feet (9.29 m²) in area.
2. Toilet rooms.
3. Other accessory use areas 1,000 square feet (92.9 m²) or less in area and equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

Reason: This proposal is in three parts. All parts require that bleachers meet all the requirements from ICC 300, a standard already referenced in the IBC, in Chapter 10 and in Chapter 16.

ICC 300 is the Standard for Bleachers, Folding and Telescopic Seating, and Grandstands. However, the section on materials in ICC 300 is not very useful, as it states: *302.1 Combustibility and flame spread. Bleachers, folding and telescopic seating, and grandstands shall be permitted to be constructed of combustible or noncombustible materials. Such installations within a building shall not be considered interior finish relative to the application of the building code.*

The requirement that bleachers be constructed of "combustible or noncombustible materials" does not exclude anything, since there is no other option for a material. There is a need to ensure the bleachers are not made of a material that is highly combustible.

This proposal contains a requirement that is pretty straightforward to meet, since traditional bleacher materials (including wood) would meet the requirements. This proposal says that they can be made of noncombustible materials (and sends to 703.3.1 of the IBC) or of materials that meet a Class C in accordance with ASTM E84.

This requirement ensures that they cannot simply be made of a highly combustible plastic or plastic composite material (note that wood materials meet a Class C without any treatment), which would introduce a high fuel load into these temporary structures.

The added requirement that "the test specimen remain in place during the test" is the same as is required for plastic composites in both the IBC (section 2612) and the IRC (section R507).

Part 1 addresses the requirements in chapter 10 of the IBC, part 2 addresses the same requirements in Chapter 31 of the IBC and part 3 addresses the same requirements in the IFC.

Cost Impact: The code change proposal will increase the cost of construction

This proposal adds a material fire performance requirement for bleachers and, therefore, it is necessary to state that it "will" increase the cost of construction. However, most bleachers in use are likely to meet the "new" requirements.

E107-21 Part I

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because the materials of which a bleacher is constructed should be addressed in the bleacher standard, ICC 300. The language is confusing and could be read to prohibit any part of a bleacher made out of wood. This would apply to all size bleachers, even just two rows. (Vote: 13-0)

E107-21 Part I

Individual Consideration Agenda

Public Comment 1:

IBC: 1030.1.1.1; (IFC[BE] 1030.1.1.1)

Proponents: Marcelo Hirschler, representing self (mmh@gbhint.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1030.1.1 Bleachers . *Bleachers, grandstands and folding and telescopic seating*, that are not building elements, shall comply with ICC 300, and shall be constructed of materials complying with Section 1030.1.1.1.

1030.1.1.1 Materials of construction of bleachers, grandstands and folding and telescopic seating . Bleachers, grandstands and folding and telescopic seating shall be constructed of materials that comply with any ~~either~~ one of the following requirements:

1. Wood.
- ~~1.~~ 2. Materials shall be noncombustible materials in accordance with Section 703.3.1.
- ~~2.~~ 3. Materials shall exhibit a Class C flame spread index and smoke developed index when tested in accordance with ASTM E84 or UL 723, with the test specimen remaining in place during the test, or shall comply with the requirements of Section 803.1.1.

Commenter's Reason: ICC 300 is not included in the complete collection of ICC codes. Therefore the code official attempting to look at compliance would need an added document to know whether any specific material is or is not allowed for use in bleachers and grandstands. There has been at least one very severe and tragic fire involving burning of grandstands, in England, on May 11, 1985, killing 56 spectators and injuring at least 265. It was pointed out during testimony that the proposal as originally written would have required wood materials to be tested to ASTM E84. That is an unnecessary requirement since wood typically complies with the requirements proposed for other materials. The public comment clarifies that wood materials need to be permitted for construction of bleachers and grandstands.

The new language simply is intended to prevent the use of highly combustible materials.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction
The public comment still attempts to prevent the use of highly flammable materials.

Public Comment# 2278

E107-21 Part II

Proposed Change as Submitted

Proponents: Marcelo Hirschler, GBH International, representing self (mmh@gbhint.com)

2021 International Building Code

Revise as follows:

3103.1 General. The provisions of Sections 3103.1 through 3103.5 ~~3103.4~~ shall apply to structures erected for a period of less than 180 days. *Special event structures*, tents, umbrella structures and other membrane structures erected for a period of less than 180 days shall also comply with the *International Fire Code*. Those erected for a longer period of time shall comply with applicable sections of this code.

Add new text as follows:

3103.5 Bleachers, grandstands and folding and telescopic seating.

Bleachers, grandstands and folding and telescopic seating, that are not building elements, shall comply with ICC 300, and shall be constructed of materials complying with Section 3103.5.1.

3103.5.1 Materials of construction of bleachers, grandstands and folding and telescopic seating.

Bleachers, grandstands and folding and telescopic seating shall be constructed of materials that comply with either one of the following requirements:

1. Materials shall be noncombustible materials in accordance with Section 703.3.1.
2. Materials shall exhibit a Class C flame spread index and smoke developed index when tested in accordance with ASTM E84 or UL 723, with the test specimen remaining in place during the test, or shall comply with the requirements of Section 803.1.1.

Reason: This proposal is in three parts. All parts require that bleachers meet all the requirements from ICC 300, a standard already referenced in the IBC, in Chapter 10 and in Chapter 16.

ICC 300 is the Standard for Bleachers, Folding and Telescopic Seating, and Grandstands. However, the section on materials in ICC 300 is not very useful, as it states: *302.1 Combustibility and flame spread. Bleachers, folding and telescopic seating, and grandstands shall be permitted to be constructed of combustible or noncombustible materials. Such installations within a building shall not be considered interior finish relative to the application of the building code.*

The requirement that bleachers be constructed of "combustible or noncombustible materials" does not exclude anything, since there is no other option for a material. There is a need to ensure the bleachers are not made of a material that is highly combustible.

This proposal contains a requirement that is pretty straightforward to meet, since traditional bleacher materials (including wood) would meet the requirements. This proposal says that they can be made of noncombustible materials (and sends to 703.3.1 of the IBC) or of materials that meet a Class C in accordance with ASTM E84.

This requirement ensures that they cannot simply be made of a highly combustible plastic or plastic composite material (note that wood materials meet a Class C without any treatment), which would introduce a high fuel load into these temporary structures.

The added requirement that "the test specimen remain in place during the test" is the same as is required for plastic composites in both the IBC (section 2612) and the IRC (section R507).

Part 1 addresses the requirements in chapter 10 of the IBC, part 2 addresses the same requirements in Chapter 31 of the IBC and part 3 addresses the same requirements in the IFC.

Cost Impact: The code change proposal will increase the cost of construction

This proposal adds a material fire performance requirement for bleachers and, therefore, it is necessary to state that it "will" increase the cost of construction. However, most bleachers in use are likely to meet the "new" requirements.

E107-21 Part II

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved as the provision was not in the correct place. The committee recommended the topic for consideration for ICC 300 or Chapter 10. (Vote: 14-0)

Individual Consideration Agenda

Public Comment 1:

IBC: 3103.5.1

Proponents: Marcelo Hirschler, representing self (mmh@gbhint.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

3103.5 Bleachers,grandstandsandfolding and telescopic seating . Bleachers,grandstandsandfolding and telescopic seating, that are not building elements, shall comply with ICC 300, and shall be constructed of materials complying with Section 3103.5.1.

3103.5.1 Materials of construction of bleachers,grandstandsandfolding and telescopic seating . Bleachers,grandstandsandfolding and telescopic seating shall be constructed of materials that comply with any ~~either~~ one of the following requirements:

1. Wood

~~1-2.~~ Materials shall be noncombustible materials in accordance with Section 703.3.1.

~~2-3.~~ Materials shall exhibit a Class C flame spread index and smoke developed index when tested in accordance with ASTM E84 or UL 723, with the test specimen remaining in place during the test, or shall comply with the requirements of Section 803.1.1.

Commenter's Reason: ICC 300 is not included in the complete collection of ICC codes. Therefore the code official attempting to look at compliance would need an added document to know whether any specific material is or is not allowed for use in bleachers and grandstands. There has been at least one very severe and tragic fire involving burning of grandstands, in England, on May 11, 1985, killing 56 spectators and injuring at least 265. It was pointed out during testimony that the proposal as originally written would have required wood materials to be tested to ASTM E84. That is an unnecessary requirement (since wood typically complies with the requirements proposed for other materials. The public comment clarifies that wood materials need to be permitted for construction of bleachers and grandstands.

The new language simply is intended to prevent the use of highly combustible materials.

The same language is also being proposed for Chapter 10.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. The public comment still attempts to prevent the use of highly flammable materials.

E107-21 Part III

Proposed Change as Submitted

Proponents: Marcelo Hirschler, GBH International, representing self (mmh@gbhint.com)

2021 International Fire Code

Revise as follows:

3103.1 General. *Tents and membrane structures* used for temporary periods shall comply with this section and Section 3106. Seating in tents and membrane structures shall comply with Section 3103.11. Other temporary structures erected for a period of 180 days or less shall comply with the *International Building Code*.

3103.11 Seating arrangements. Seating in *tents or membrane structures* shall be in accordance with Chapter 10 and comply with the requirements of Section 3103.11.1.

Add new text as follows:

3103.11.1 Bleachers, grandstands and folding and telescopic seating.

Bleachers, grandstands and folding and telescopic seating, that are not building elements, shall comply with ICC 300. The materials of construction shall comply with either one of the following:

1. Materials shall be noncombustible in accordance with Section 703.3.1 of the International Building Code.
2. Materials shall exhibit a Class C flame spread index and smoke developed index when tested in accordance with ASTM E84 or UL 723, with the test specimen remaining in place during the test, or shall comply with the requirements of Section 803.1.1.

Reason: This proposal is in three parts. All parts require that bleachers meet all the requirements from ICC 300, a standard already referenced in the IBC, in Chapter 10 and in Chapter 16.

ICC 300 is the Standard for Bleachers, Folding and Telescopic Seating, and Grandstands. However, the section on materials in ICC 300 is not very useful, as it states: *302.1 Combustibility and flame spread. Bleachers, folding and telescopic seating, and grandstands shall be permitted to be constructed of combustible or noncombustible materials. Such installations within a building shall not be considered interior finish relative to the application of the building code.*

The requirement that bleachers be constructed of "combustible or noncombustible materials" does not exclude anything, since there is no other option for a material. There is a need to ensure the bleachers are not made of a material that is highly combustible.

This proposal contains a requirement that is pretty straightforward to meet, since traditional bleacher materials (including wood) would meet the requirements. This proposal says that they can be made of noncombustible materials (and sends to 703.3.1 of the IBC) or of materials that meet a Class C in accordance with ASTM E84.

This requirement ensures that they cannot simply be made of a highly combustible plastic or plastic composite material (note that wood materials meet a Class C without any treatment), which would introduce a high fuel load into these temporary structures.

The added requirement that "the test specimen remain in place during the test" is the same as is required for plastic composites in both the IBC (section 2612) and the IRC (section R507).

Part 1 addresses the requirements in chapter 10 of the IBC, part 2 addresses the same requirements in Chapter 31 of the IBC and part 3 addresses the same requirements in the IFC.

Cost Impact: The code change proposal will increase the cost of construction

This proposal adds a material fire performance requirement for bleachers and, therefore, it is necessary to state that it "will" increase the cost of construction. However, most bleachers in use are likely to meet the "new" requirements.

E107-21 Part III

Public Hearing Results

Committee Reason: The committee stated that the reasons for disapproval were that the language in the IFC is duplicated from the IBC which does reference ICC 300 and based on the previous disapproval of Parts I and II by the previous two committees. Additionally, it was stated that ICC 300 addresses new and existing installations of all types of bleacher seating including fixed and folding bleachers and the prevalence of seating in tents and membrane structures tend to be folding chairs. (Vote: 14-0)

Individual Consideration Agenda

Public Comment 1:

IFC: 3103.11, 3103.11.1

Proponents: Marcelo Hirschler, representing self (mmh@gbhint.com) requests As Modified by Public Comment

Modify as follows:

2021 International Fire Code

3103.11 Seating arrangements . Seating in *tents* or *membrane structures* shall be in accordance with Chapter 10 and comply with the requirements of Section 3103.11.1.

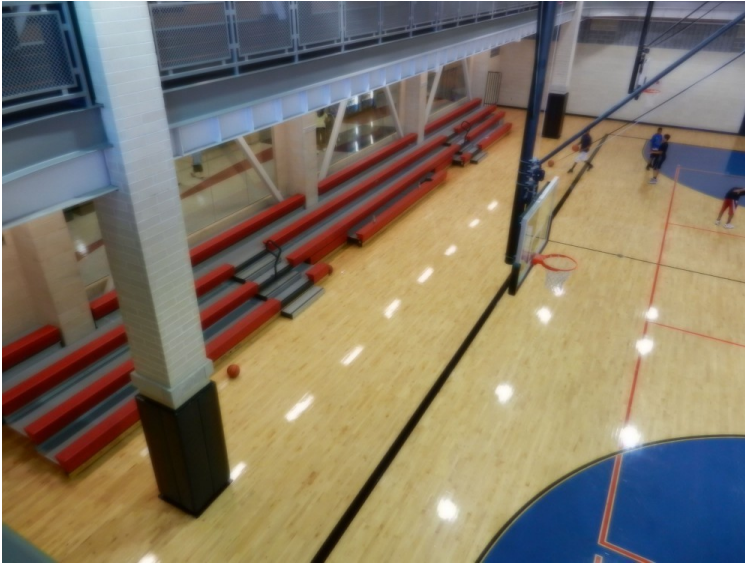
3103.11.1 Bleachers, grandstands and telescopic seating . Bleachers, grandstands and telescopic seating, that are not building elements, shall comply with ICC 300. The materials of construction shall comply with any ~~either~~ one of the following:

1. Wood
- ~~1-~~ 2. Materials shall be noncombustible in accordance with Section 703.3.1 of the International Building Code.
- ~~2-~~ 3. Materials shall exhibit a Class C flame spread index and smoke developed index when tested in accordance with ASTM E84 or UL 723, with the test specimen remaining in place during the test, or shall comply with the requirements of Section 803.1.1.

Commenter's Reason: ICC 300 is not included in the complete collection of ICC codes. Therefore the code official attempting to look at compliance would need an added document to know whether any specific material is or is not allowed for use in bleachers and grandstands. There has been at least one very severe and tragic fire involving burning of grandstands, in England, on May 11, 1985, killing 56 spectators and injuring at least 265. It was pointed out during testimony that the proposal as originally written would have required wood materials to be tested to ASTM E84. That is an unnecessary requirement since wood typically complies with the requirements proposed for other materials. The public comment clarifies that wood materials need to be permitted for construction of bleachers and grandstands. The new language simply is intended to prevent the use of highly combustible materials. The proposed language has not been modified with regard to its applicability since that would not be consistent with the ICC 300 standard, the code or other parts of E107.

Note that the definition of folding and telescopic seating in the IBC is as shown below and the requirements of ICC 300 and the code do apply to them:

FOLDING AND TELESCOPIC SEATING. Tiered seating having an overall shape and size that is capable of being reduced for purposes of moving or storing and is not a *building element*.



Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. The public comment still attempts to prevent the use of highly flammable materials.

Public Comment# 2282

Proposed Change as Submitted

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

2021 International Building Code

Revise as follows:

1031.2 Where required. In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in stories with only one *exit* or *access* to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2).
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens into or has access to a *public way*.

Exceptions:

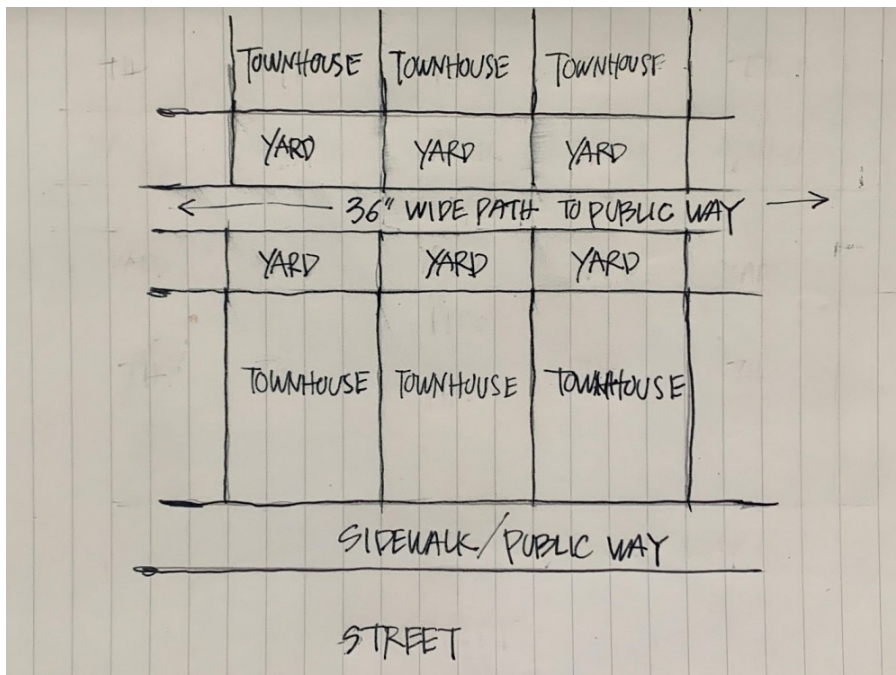
1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, court or exterior egress balcony that opens to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.
4. Storm shelters are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the basement has one of the following:
 - 5.1. One *means of egress* and one *emergency escape and rescue opening*.
 - 5.2. Two *means of egress*.

Reason: The purpose of this code change is to allow an EERO to discharge into a fenced yard that does not directly open onto a public way if a path can be provided from the fenced yard to the public way. In many cities, new townhouses are being constructed on infill lots with tight space limitations.

Locating an EERO while also wanting to provide fenced yards is becoming challenging. In some cases, a builder may want to construct two rows of townhouses that are tight up to the street but that have fenced backyards for each unit. Under the current code, the builder would either have to construct a window well in the sidewalk to access a basement EERO or in the backyard and forgo the private fenced yards as there will likely not be enough space to provide a 10 foot wide "public way".

The issue with placing an EERO in the front to allow a fenced yard in the back include coordinating the location with entry doors and front steps, coordinating the location with utilities, and providing a cover over the window well that prevents passers-by from dropping trash into the window well or getting high heels stuck in the openings of a grate. The problem with forgoing fenced yards is obviously the loss of privacy.

While a 10-foot wide path between back-to-back fenced yards is almost certainly not feasible, a narrower path will be in many cases. The new exception would allow such a path, that occupants could use to get out of their yard after escaping through an EERO, or that firefighters could use to access the fenced yard for firefighting and rescue operations without having to demolish or scale over a series of fences. The assumption is that the yard opens via a gate with access to the public way. Note that an emergency escape and rescue opening is a means of escape, not an 'exit,' so the provisions for 'egress courts' are not applicable. Yards and courts are both defined as spaces open to the sky.



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 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 BCAC.

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

The code change does not change the requirement to provide an EERO for sleeping rooms and for basements (including each sleeping room in a basement). Thus, there should be no increase in cost as a result of this proposal. There may be a modest savings from the added ability to locate a basement EERO in the rear of the home, where covers may not be required and coordination with utilities is easier.

E112-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved because there was concern that it would be difficult to maintain accessways without

Individual Consideration Agenda

Public Comment 1:

IBC: 1031.2 (IFC:[BE]1031.2)

Proponents: Mike Nugent, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1031.2 Where required . In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in stories with only one *exit* or *access* to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2).
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way* or to a *yard* or *court* that opens ~~into or has access to~~ a *public way*.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, court or exterior egress balcony that opens to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m²) in floor area shall not be required to have *emergency escape and rescue openings*.
4. Storm shelters are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. An *emergency escape and rescue opening* shall not be required to open directly into a *yard* or *court* that opens directly to a *public way* provided the court or *yard* opens to an unobstructed path from the court or *yard* to the *public way*. Such path shall have a width of not less than 36 inches (914 mm).
- ~~6-5.~~ Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the basement has one of the following:
 - ~~5-1.~~ 6.1. One *means of egress* and one *emergency escape and rescue opening*.
 - ~~5-2.~~ 6.2. Two *means of egress*.

Commenter's Reason: The intent of the original proposal was to allow an EERO to discharge into a fenced yard that does not directly open onto an egress court or public way if a minimum 36" wide path can be provided from the fenced yard to the egress court or public way. During the 2019 CAH, a similar proposal was approved addressing emergency escape in the IRC. This proposal was intended to correlate the language for emergency escape between the IBC and IRC.

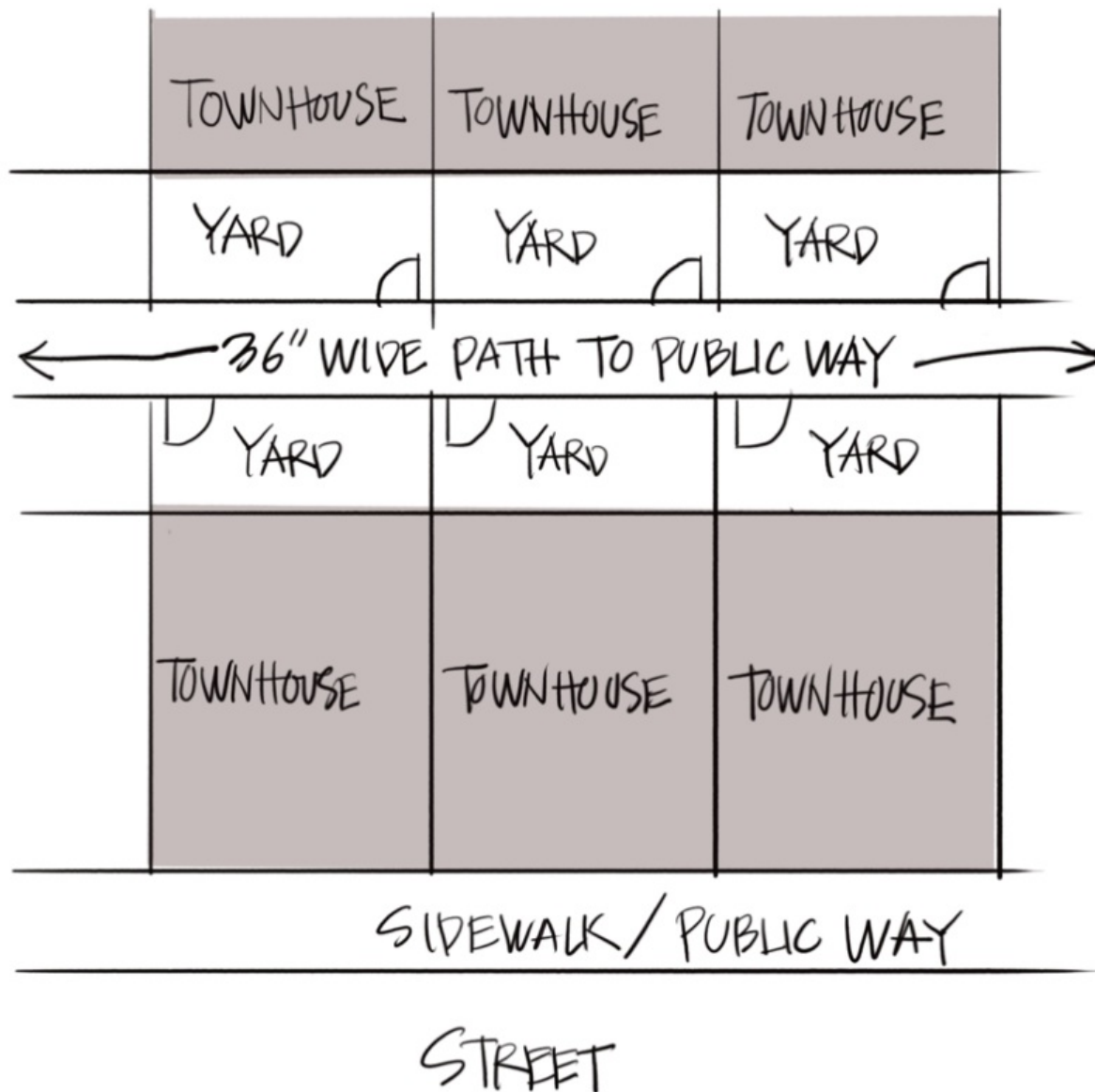
The Code Action Committee expressed concern that the 36" wide path may not be maintained unless it was a dedicated easement. Since each of the dwellings has fenced rear yards that would define the property lines, the public way would be for public use and not private use.

An exception has been added to describe that such a path would be required that occupants could use to get escape from a yard after escaping

through an EERO, or that the fire service could use to access the fenced yard for rescue operations.

Likewise, the committee felt that there should be required access from the 36" wide path to the yards of each dwelling for use by the fire service. This would be achieved by the use of a swinging gate for each yard that provides such access.

The changes in this public comment take the language that was approved during the 2019 Group B code cycle and correlating that with this proposed change in the IBC allowing a path that occupants of each dwelling to use for escape, or that the fire service could use for access to a fenced yard of each property.



Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. The code change does not change the requirement to provide an EERO for sleeping rooms and for basements (including each sleeping room in a basement). Thus, there should be no increase in cost as a result of this proposal. There may be a modest savings from the added ability to locate a basement EERO in the rear of the home, where covers may not be required and coordination with utilities is easier.

Proposed Change as Submitted

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

2021 International Building Code

Revise as follows:

1031.2.1 Operational constraints and opening control devices. *Emergency escape and rescue openings* shall be operational from inside the room without the use of keys or tools. Window-opening control devices and fall prevention devices complying with F2090—17 shall be permitted for use on windows serving as a required *emergency escape and rescue opening*.

1031.3 Emergency escape and rescue openings. *Emergency escape and rescue openings* shall ~~comply~~ have minimum dimensions in accordance with Sections 1031.3.1 through 1031.3.3.

1031.3.3 Maximum height from floor. ~~Where a window is provided as the emergency~~ *Emergency escape and rescue openings*, such window shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.

1031.4 Emergency escape and rescue doors. Where a door is provided as the required *emergency escape and rescue opening*, it shall be a ~~swinging side hinged~~ door or a sliding door.

1031.6 Bars, grilles, covers and screens. Where bars, grilles, covers, screens or similar devices are placed over *emergency escape and rescue openings* or area wells that serve such openings, the minimum net clear opening size shall comply with Sections 1031.3 through 1031.3.2 and ~~1031.5~~ 1031.5.1. Such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the *emergency escape and rescue opening*.

Reason: The intent of this code change is to complete the coordination for EERO in IBC and IRC where appropriate. There were multiple proposals during the last cycle and this was split between Group A and B, so some items remain to be coordinated. There will be proposals in Group B for IRC and IEBC.

1031.2.1 – It was pointed out during the IRC changes that ASTM F2090 was applicable to control devices and fall prevention devices. This revision would also coordinate with IRC Section R310.1.1.

1031.3 – This is a more specific description of the referenced sections. This will coordinate with R310.2.

1031.3.3 - EEROs can be doors or windows. The proposed revision in text would clarify that the bottom of the opening applies to windows. This change is also proposed to IRC R310.2.3.

1031.4 – During the IRC changes it was suggested that 'side-hinged' door was better code language and more consistent with other code text. This change would coordinate with IRC R310.3.1031.4 - The change in the references provides a more specific reference for the covers by just referencing the section on area well size. This will coordinate with IRC 310.4.3.

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 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 BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. There are not changes to construction requirements. These are clarifications only.

E113-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved. Why is Section 1031.3.3 limited to only windows? Emergency escape and rescue opening could also be doors or hatches. NFPA 80 uses swinging doors, not side hinged doors. Section 1031.4 should match NFPA 80 terminology. (Vote: 11-3)

Individual Consideration Agenda

Public Comment 1:

IBC: 1031.4 (IFC:[BE] 1031.4)

Proponents: Mike Nugent, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1031.4 Emergency escape and rescue doors . Where a door is provided as the required *emergency escape and rescue opening*, it shall be a ~~side hinged swinging~~ door or a sliding door.

Commenter's Reason: The proposal was to coordinate with the EERO changes in the IRC. Last cycle the BCAC worked to extensively revise and clarify the EERO requirements. In hindsight, the proposal, if it had shown the revisions in context of the revised section, would have been much clearer.

Section 1031.4 - the committee said they preferred swinging because that was more consistent with NFPA 80 for fire doors. The code is inconsistent in the usage for doors, so this modification clarifies this is a standard door, not a hatch door.

1031.2.1 – It was pointed out during the IRC changes that ASTM F2090 was applicable to control devices and fall prevention devices. This revision would also coordinate with IRC Section R310.1.1.

1031.3 and 1031.3.3 – the Egress Committee felt that this revision was limiting the EERO to windows only, and not allowing doors. That is incorrect. This section only references windows because only windows have a bottom edge requirement. A door would be controlled through the general door requirements for thresholds and landings, but it can still be an EERO (Section 1031.4). This is the proposed language in context.

1031.3 Emergency escape and rescue openings. *Emergency escape and rescue openings shall ~~comply~~ have minimum dimensions in accordance with Sections 1031.3.1 through 1031.3.3.*

1031.3.1 Minimum size. *Emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet (0.53 m2).*

Exception: *The minimum net clear opening for grade floor emergency escape and rescue openings shall be 5 square feet (0.46 m2).*

1031.3.2 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.*

1031.3.3 Maximum height from floor. *Where a window is provided as the emergency ~~Emergency~~ escape and rescue openings, such window shall have the bottom of the clear opening not greater than 44 inches (1118 mm) measured from the floor.*

The change to Section 1031.6 is just a more specific pointer for clarity. The sections taken out of the reference don't have anything to do with size.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. There are not changes to construction requirements. These are clarifications only.

Public Comment# 2624

E118-21

Proposed Change as Submitted

Proponents: David Renn, PE, SE, City and County of Denver, representing Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2021 International Building Code

Revise as follows:

1105.1.1 Automatic doors. In facilities with the occupancies and building *occupant loads* indicated in Table 1105.1.1, *public entrances* that are required to be *accessible* shall have one door be either a full *power-operated door* or a *low-energy power-operated door*. Where the *public entrance* includes a vestibule, at least one door into and one door out of the vestibule shall meet the requirements of this section.

Exception: For the purpose of determining *power-operated door* requirements, a tenant space with its own exterior *public entrance* shall be considered a separate facility and building.

TABLE 1105.1.1 PUBLIC ENTRANCE WITH POWER-OPERATED DOOR^a

OCCUPANCY	BUILDING OCCUPANT LOAD GREATER THAN
A-1, A-2, A-3, A-4	300
B, M, R-1	500

- a. In mixed-use facilities where the total sum of the building occupant load is greater than those listed, the most restrictive building occupant load shall apply.

Reason: This proposal is intended to clarify how the power-operated door requirement is applied to a tenant space that has its own exterior public entrance. When a tenant space has its own exterior public entrance it functions as a facility that is separate from the building as a whole and should be treated as such for power-operated door requirements. This proposal requires these tenant spaces to be considered a separate facility and building for power-operated door requirements (note that the terms facility and building are both used since this section and associated table use both terms). Following are three scenarios with requirements as this section is currently written and as proposed:

Scenario 1: Tenant space does not exceed occupant limits in Table 1105.1 and remainder of building does not exceed limits, but total building does exceed limits. As currently written, public entrances to the tenant space and the remainder of the building are required to have power-operated doors based on the total building occupant load. As proposed, no power-operated doors are required.

Scenario 2: Tenant space exceeds occupant limits in Table 1105.1 and remainder of building does not exceed limits. As currently written, public entrances to the tenant space and the remainder of the building are required to have power-operated doors based on the total building occupant load. As proposed, tenant space is required to have power-operated doors but remainder of building is not.

Scenario 3: Tenant space does not exceed occupant limits in Table 1105.1 and remainder of building does exceed limits. As currently written, public entrances to the tenant space and the remainder of the building are required to have power-operated doors based on the total building occupant load. As proposed, tenant space is not required to have power-operated doors, but remainder of building is.

Cost Impact: The code change proposal will decrease the cost of construction

This proposal will result in power-operated doors being required at fewer locations, so the cost of construction will decrease.

Staff note: E117-21 and E118-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E118-21

Public Hearing Results

Committee Action:

As Submitted

Committee Reason: This proposal was approved as it was preferred over E117-21. This would allow for strip malls to not require automatic doors for every small tenant space. There was a concern that this is confusing by using "separate facility or building" when you are not limited by exterior walls or fire walls. (Vote: 14-0)

Staff Analysis: E117-21 and E118-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E118-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1105.1.1

Proponents: Mike Nugent, representing ICC Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1105.1.1 Automatic doors . In facilities with the occupancies and building *occupant loads* indicated in Table 1105.1.1, *public entrances* that are required to be *accessible* shall have one door be either a full *power-operated door* or a *low-energy power-operated door*. Where the *public entrance* includes a vestibule, at least one door into and one door out of the vestibule shall meet the requirements of this section.

Exception: For the purpose of determining *power-operated door* requirements, a tenant space with ~~its own~~ a direct exterior public entrance ~~shall be considered and without interior public access to building areas other than the tenant space shall be considered separately a separate facility and building.~~

Commenter's Reason: This public comment reflects the intent of the original proponents of Section 1105.1.1.

The purpose of this proposed modification is to improve clarity and address concerns brought up during the testimony for E117-21 and E118-21.

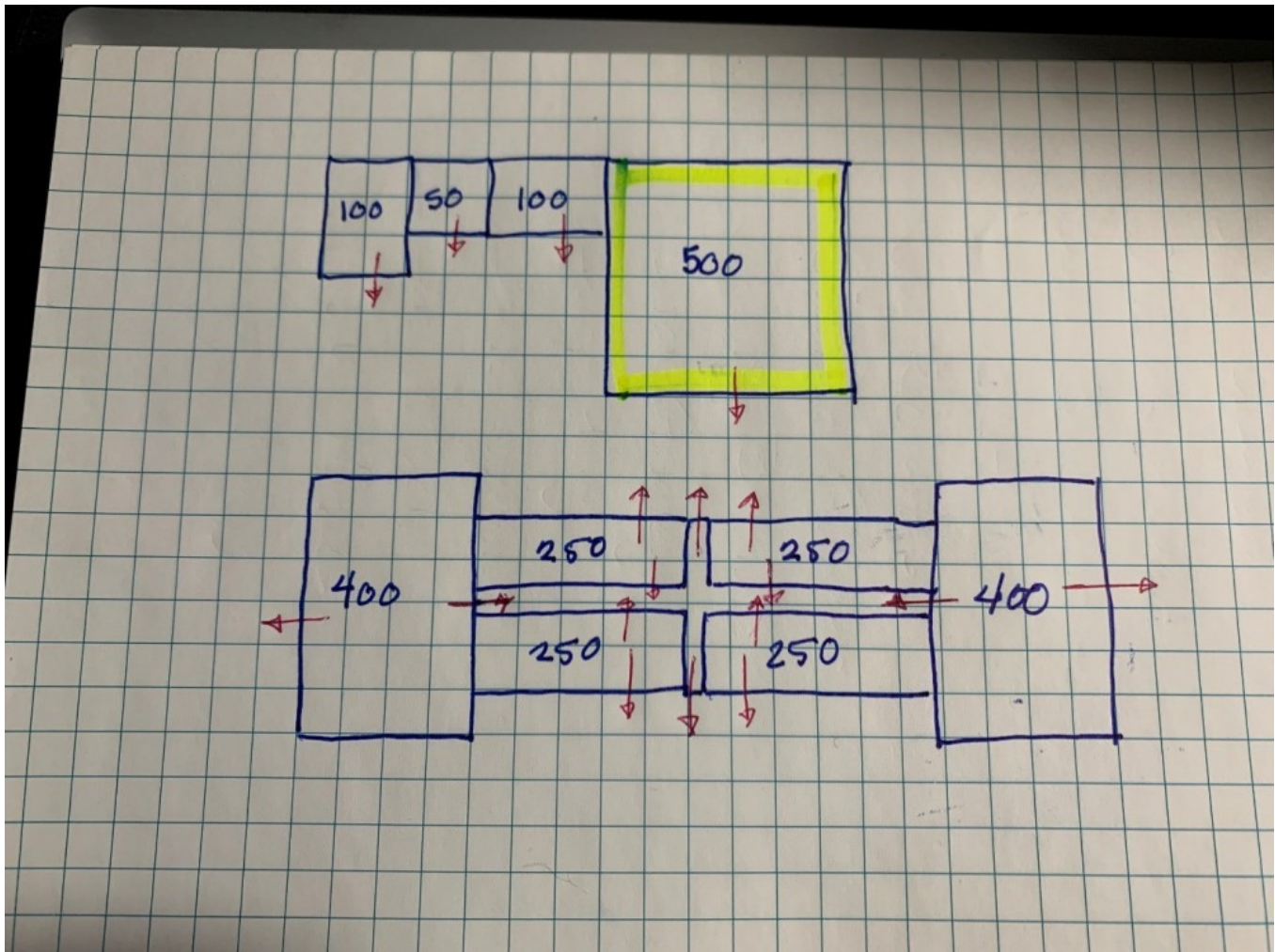
The current exception as written would, for a mixed use building with interior and exterior doors to each tenant space, allow for each tenant space to be evaluated separately instead of the building as a whole – thus possibly allowing for a space like an interior mall to not have to have automatic doors.

There is also an issue with “considered a separate ...building”, when the IBC says a building is defined by exterior walls and fire walls, not tenant separation walls. This could be confusing.

This public comment clarifies that an individual tenant space without interior public access to other building areas is to be considered separately regarding applicability of 1105.1.1. An example would be a strip mall with separate tenant entrances. The result is if such an individual tenant space (which does not have public access to areas of the building other than the individual tenant space) does not have occupancy and occupant loads greater than Table 1105.1.1, then that individual tenant space would not be required to comply with the power-operated door requirements of 1105.1.1 – and the occupancies and occupant load of such an individual tenant space would not be included in the determination of the applicability of 1105.1.1 to the building.

On the other hand, if an individual tenant space does have interior public access to areas of the building other than the individual tenant space, the occupancies and occupant load of the individual tenant space would be included in the determination of the applicability of 1105.1.1 to the entire building. An example would be an interior mall – where the building should be considered in it's entirety.

The as submitted text would only require automatic doors at the anchor store for the strip mall in the top example and would exempt the mall at the bottom example in total. The proposed public text would treat the strip mall the same, but would also pick up automatic doors in the mall in the bottom example since there are interior corridors as well as exterior doors.



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 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 BCAC.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction. This proposal will result in power-operated doors being required at fewer locations, so the cost of construction will decrease.

Public Comment# 2625

E121-21

Proposed Change as Submitted

Proponents: Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

2021 International Building Code

Revise as follows:

1106.3 Groups I-1, R-1, R-2, R-3 and R-4. Accessible parking spaces shall be provided in Group I-1, R-1, R-2, R-3 and R-4 occupancies in accordance with the greatest number of parking spaces of any of the following: ~~Items 1 through 4 as applicable.~~

1. In Group R-2, R-3 and R-4 occupancies that are required to have Accessible, Type A or *Type B dwelling units or sleeping units*, at least 2 percent, but not less than one, of each type of parking space provided shall be accessible.
2. In Group I-1 and R-1 occupancies, accessible parking shall be provided in accordance with Table 1106.2.
3. Where at least one parking space is provided for each *dwelling unit or sleeping unit*, at least one *accessible* parking space shall be provided for each *Accessible and Type A unit*.
4. ~~Where parking is provided within or beneath a building, accessible parking spaces shall be provided within or beneath the building.~~

Add new text as follows:

1106.3.1 Parking beneath a building.

Where parking is provided within or beneath a building, accessible parking spaces shall be provided within or beneath the building.

Reason: To clarify that the required number of parking spaces should result in the greatest number based on the conditions noted. A similar code change was presented as a public comment to E117-18. This proposed language addresses the concerns the committee had with regards to the placement of the clarification language.

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

Whether or not the code change proposal will increase or decrease the cost of construction depends upon how jurisdictions have been interpreting item 3 of section 1106.3. If jurisdictions have been interpreting that accessible parking spaces required by item 1 of section 1106.3 do not include the accessible parking spaces required by item 3 of section 1106.3 (which must be also be additionally provided), this will not increase construction costs. The reason for this is that the jurisdiction's interpretation of items 1 and 3 of section 1106.3 is consistent with the code change proposal, that reflects the intent of the code. If jurisdictions have been interpreting that accessible parking spaces required by item 1 of section 1106.3 include the accessible parking spaces required by item 3 of section 1106.3, this will increase construction costs. The reason for this is that the jurisdiction's interpretation of items 1 and 3 of section 1106 3 is not consistent with the code change proposal and additional accessible parking spaces and their accompanying accessible access aisles and accessible routes will be required.

Staff Note: E121-21, E122-21 and E123-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E121-21

Public Hearing Results

Committee Action:

As Submitted

Committee Reason: The proposal was approved as the best option of E121, E122 and E123. The proponents should work together to add the best options from all three in a public comment. Separating parking beneath the building (Item 4) into a new section provides a good clarification. This proposal clarifies that items 1 and 3 are not additive. (Vote: 9-5)

Staff Analysis: E121-21, E122-21 and E123-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E121-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1106.3, 1106.7.1

Proponents: Eirene Knott, representing Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com); Stephen Thomas, representing Self (stthomas@coloradocode.net); Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com) requests As Modified by Public Comment

Further modify as follows:

2021 International Building Code

1106.3 Groups ~~I-1, R-1~~, R-2, R-3 and R-4 . Accessible parking spaces shall be provided in Group ~~I-1, R-1~~, R-2, R-3 and R-4 occupancies in accordance with the greatest number of parking spaces of any of the following:

1. In Group R-2, R-3 and R-4 occupancies that are required to have Accessible, Type A or *Type B dwelling units or sleeping units*, at least 2 per type of parking space provided shall be accessible.
- ~~2. In Group I-1 and R-1 occupancies, accessible parking shall be provided in accordance with Table 1106.2.~~
- ~~2.3.~~ Where at least one parking space is provided for each *dwelling unit or sleeping unit*, at least one accessible parking space shall be provided for

~~1106.3.1~~ **1106.7.1 Parking located beneath a building** . Where parking is provided ~~within or~~ beneath a building, accessible parking spaces shall be provided ~~within or~~ beneath the building.

Commenter's Reason: The committee had a lengthy discussion on E121, E122 and E123. They approved E121 asking the three of us to work together to put together the best options from all three code changes. This public comment is the result of that collaboration. We have moved the parking beneath the building to be in the section which would be more applicable as far as being a subsection of the location of accessible parking. We have removed the references to the I-1 and R-1 occupancies as those are provided for elsewhere.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. There is a possibility that this code change could decrease the cost of construction as it now clearly indicates what accessible parking is required. Previous code language could have been confusing and generating the need for additional accessible parking. Overall, it should not have any impact as it is just providing clear direction on what accessible parking is required.

Public Comment# 2341

Proposed Change as Submitted

Proponents: Michael Gentile, PCNA Consulting Group, Inc., representing PCNA Consulting Group, Inc. (michael@pcnagroup.com)

2021 International Building Code

Revise as follows:

1107.2 Electrical vehicle charging stations. Electrical vehicle charging stations shall comply with Sections 1107.2.1 and 1107.2.2.

Exception: Electrical vehicle charging stations provided to serve Group ~~R-2~~, R-3 and R-4 occupancies are not required to comply with this section.

Reason: Most of the newly constructed Group R-2 occupancy projects are being designed to include Electric Vehicle Charging Stations for use by residents. As such, by incorporating Group R-2 occupancies into the design requirements of Section 1107.2, the residents are guaranteed to be provided with at least one of them to be accessible. At present, they are not. Additionally, the inclusion of these design requirements provides consistency in the design of these features on mixed use projects. At present, if a building has mixed use occupancies (which is quite common in larger and/or high-rise development projects), a designer could arbitrarily designate that 100% of the Electric Vehicle Charging Stations are meant to "serve" the Group R-2 occupants, but not the Group B occupants. This would mean that NONE of the EVCS spaces on a site (or within a parking garage) would be required to incorporate accessibility features. Under current code language, there is no way to determine how these spaces are allocated by occupancy group. Ergo, it is a loophole on mixed-use projects that include an Group R-2 occupancy. Conversely, the concern for Group R-3 or R-4 occupancies is not as relevant, since these groups are significantly less likely to occur within mixed-use buildings.

Cost Impact: The code change proposal will increase the cost of construction

For Group R-2 occupancies only, the cost is the addition of van-accessible signage to 5% of the total number of Electric Vehicle Charging Stations that are designated to serve the Group R-2 occupancies.

E124-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved as the committee felt that a lower limit should be permitted for small Group R-2 occupancies rather than always requiring electrical vehicle charging stations. Options discussed were where Type B units were required, or based on the total number of units. (Vote: 14-0)

E124-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1107.2

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1107.2 Electrical vehicle charging stations. Electrical vehicle charging stations shall comply with Sections 1107.2.1 and 1107.2.2.

Exception Exceptions:

1. In Group R-2 occupancies, electrical vehicle charging stations only serving individually owned parking spaces or spaces that are assigned to dwelling units or sleeping units not required to be Accessible, Type A, or Type B units, are not required to comply with Sections 1107.2.1 and 1107.2.2.

2. Electrical vehicle charging stations provided to serve Group R-3 and R-4 occupancies are not required to comply with this section.

Commenter's Reason: As was proposed, this public comment removes the blanket Exception for providing accessible EV charging stations in Group R-2 occupancies. It replaces the exception for Group R-2 occupancies with a new, more limited, exception that is more consistent with the requirements of the ADA and the Federal Fair Housing Act. The new exception would apply only to parking spaces that are individually owned and where they are assigned to dwelling units that are not required to be Accessible units, Type A units, or Type B units.

Fair Housing Act Compliance: The HUD FHA design and construction requirements provide that if different types of parking spaces are provided, a sufficient number of each type must be made accessible. (See the (Fair Housing Act Design Manual at <https://www.huduser.gov/portal/publications/destech/fairhousing.html>, page 2.23). Although it is arguable that an EV charging station is not always also a parking space, when the amenity is provided for common use, the FHA requires it to be accessible.

ADA Compliance: The 2010 ADA Standards do not yet contain provisions for EV Charging Stations. However, the ADA is a civil rights law and, the Department of Justice ADA regulations would require that the EV charging stations be designed to be usable by individuals with disabilities if they are part of a public accommodation (title III) or located in facility that is subject to the regulations for state and local government facilities and programs (title II). Therefore, where EV charging stations are provided for public use, some charging stations must be accessible, regardless of where they are provided. There is no exception for Group R-2 occupancies.

Exception 2: Aside from the deletion of Group R-2 from the list in Exception 2 that was part of the original proposal, we made an editorial change to the format that ICC staff we consulted recommend. This change is also consistent with the format used in new Exception 1.

We believe this is a reasonable approach to a difficult subject and will give the ICC an opportunity to lead the way with this new technology and all the associated questions it raises. Please consider voting to disapprove the committee action and approve E124-21 as modified by this public comment.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. There will be some increase in construction cost. However, this cost is offset by the decreased potential liability due to non-compliance with the ADA and the Fair Housing Act.

Public Comment# 2831

E130-21

Proposed Change as Submitted

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

2021 International Building Code

1108.6.1 Group R-1. *Accessible units* and *Type B units* shall be provided in Group R-1 occupancies in accordance with Sections 1108.6.1.1 and 1108.6.1.2.

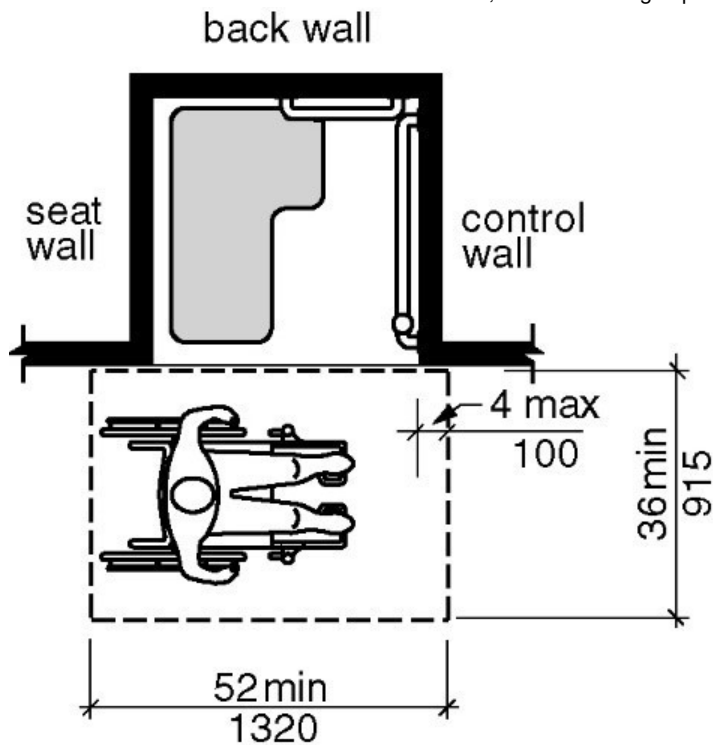
1108.6.1.1 Accessible units. *Accessible dwelling units* and *sleeping units* shall be provided in accordance with Table 1108.6.1.1. On a multiple-building site, where structures contain more than 50 *dwelling units* or *sleeping units*, the number of *Accessible units* shall be determined per structure. On a multiple-building site, where structures contain 50 or fewer *dwelling units* or *sleeping units*, all *dwelling units* and *sleeping units* on a site shall be considered to determine the total number of *Accessible units*. *Accessible units* shall be dispersed among the various classes of units.

Revise as follows:

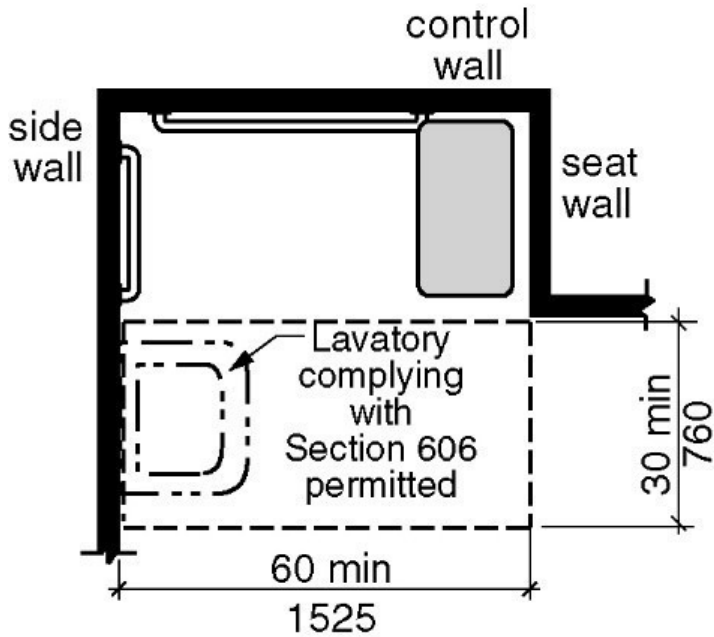
TABLE 1108.6.1.1 ACCESSIBLE DWELLING UNITS AND SLEEPING UNITS

TOTAL NUMBER OF UNITS PROVIDED	MINIMUM REQUIRED NUMBER OF ACCESSIBLE UNITS WITHOUT ROLL-IN SHOWERS	MINIMUM REQUIRED NUMBER OF ACCESSIBLE UNITS WITH ROLL-IN SHOWERS	TOTAL NUMBER OF REQUIRED ACCESSIBLE UNITS
1 to 25	1	0	1
26 to 50	2	0	2
51 to 75	3	1	4
76 to 100	4	1	5
101 to 150	5	2	7
151 to 200	6	2	8
201 to 300	7	3	10
301 to 400	8	4	12
401 to 500	9	4	13
501 to 1,000	2% of total	1% of total	3% of total
Over 1,000	20, plus 1 for each 100, or fraction thereof, over 1,000	10 plus 1 for each 100, or fraction thereof, over 1,000	30 plus 2 for each 100, or fraction thereof, over 1,000

Reason: If a hotel has all showers, Table 1107.6.1.1 could be read to force bathtubs in Accessible rooms. What is the reasoning/justification for this? A roll-in shower with a seat is doing double duty as transfer and roll-in. The table was written originally with the intent to require at least some roll-in showers when hotels typically provided all bathtubs. Designs for bathrooms have changed. Providing showers instead of tubs has been shown to reduce accidental falls in the bathrooms; while continuing to provide accessible options.

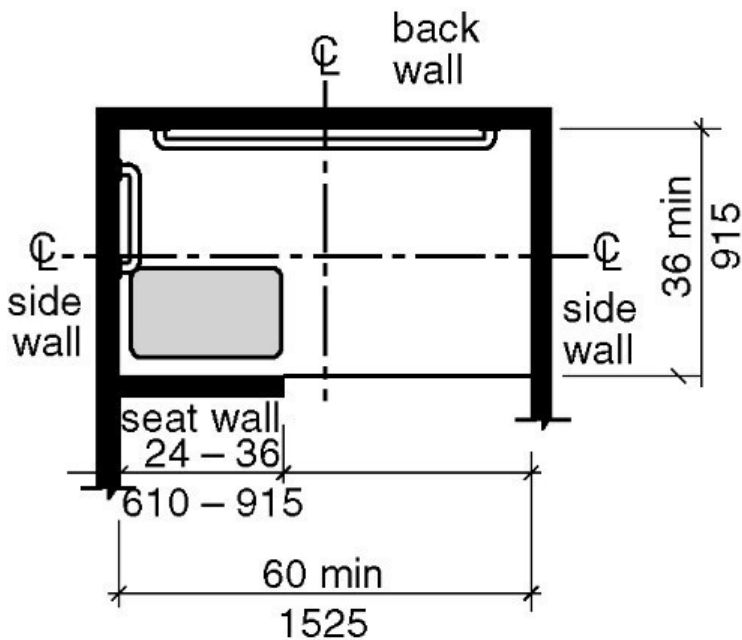


Transfer shower



Note: inside finished dimensions measured at the center points of opposing sides

Roll-in shower (also serves as transfer shower)



Note: inside finished dimensions measured at the center points of opposing sides

Alternate roll-in shower (also serves as transfer shower)

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 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 BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. This would increase design options for hotels.

Staff Note: E130-21 and E131-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E130-21

Public Hearing Results

Committee Action:

As Submitted

Committee Reason: The proposal was approved as this will remove the misinterpretation that a hotel has to put in accessible tubs and could not choose to provide a higher level of accessibility and safety by providing all transfer and roll-in showers in the Accessible units. (Vote: 14-0)

Staff Analysis: E130-21 and E131-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E130-21

Individual Consideration Agenda

Public Comment 1:

Proponents: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com) requests Disapprove

Commenter's Reason: The building code action committee got this one wrong as did the hearing committee. This is a provision that is already in the federal ADA Standards. The table looks very much like the one in the IBC:

Table 224.2 Guest Rooms with Mobility Features

Total Number of Guest Rooms Provided	Minimum Number of Required Rooms Without Roll-in Showers	Minimum Number of Required Rooms With Roll-in Showers	Total Number of Required Rooms
1 to 25	1	0	1
26 to 50	2	0	2
51 to 75	3	1	4
76 to 100	4	1	5
101 to 150	5	2	7
151 to 200	6	2	8
201 to 300	7	3	10
301 to 400	8	4	12
401 to 500	9	4	13
501 to 1000	2 percent of total	1 percent of total	3 percent of total
1001 and over	20, plus 1 for each 100, or fraction thereof, over 1000	10, plus 1 for each 100, or fraction thereof, over 1000	30, plus 2 for each 100, or fraction thereof, over 1000

The proposal asked a rhetorical question regarding what the reasoning/justification was for requiring bathtubs. It also made an incorrect statement and equating a roll-in shower with a transfer shower. It is clear that neither the BCPC nor the hearing committee investigated this or contacted the US Access Board for direction. Bathtubs are better when an adult is assisting in bathing a disabled child. Additionally, some adults prefer a bathtub if they can accomplish the transfer because they can use the shower wand and adjust the distance to it by placing the seat where desired.

By trying to eliminate non-roll-in showers (standards roll-in and alternate roll-in) the IBC would be out of step with federal law and once again allow construction that is in violation of the Americans with Disabilities Act. A non-roll-in bathing fixture can be either a bathtub or a transfer shower. This was another misleading statement in the proposal. They are not similar. A roll-in shower is used by individuals who cannot likely stand. A non-roll-in fixture can be used by either transfer or by standing. Some people with disabilities can stand but use a mobility device because standing is difficult.

I urge the membership to vote to overturn the committee. Do not place out code in conflict with federal law.

Bibliography: 2010 ADA Standards for Accessible Design

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction
No change to code.

Public Comment# 2734

Public Comment 2:

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com) requests Disapprove

Commenter's Reason: The committee erred in approving this proposal. They stated that the change would "remove the misinterpretation that a hotel has to put in accessible tubs and could not choose to exceed requirements and provide all roll-in showers".

The current code does not "misinterpret" Section 224.2 of the 2010 ADA Standards. The ADA Standards do require that either a bathtub or transfer shower be provided in the number of rooms not required to provide a roll-in shower. This proposal allows hotels to elect to provide roll-in showers in all accessible guest rooms, and no bathtubs or transfer showers regardless of what type of bathing facilities are provided in inaccessible guest rooms. It removes the choice of type of accessible bathing fixtures for people with disabilities in any hotel where the designer elects to exercise the (now permitted) option to increase the number of roll-in showers provided and decrease, even to the point where there are none, the number of bathtubs or transfer showers.

In their rationale, the proponents make several statements to which we wish to respond:

- *A roll-in shower with a seat is doing double duty as transfer and roll-in.* Response: A roll-in shower differs significantly from a transfer shower. One of the main differences is that a person using a shower wheelchair cannot remain in the wheelchair while showering because it will not fit into the shower. The ability to remain in the wheelchair allows people whose disabilities affect their balance greater safety by avoiding a transfer and avoiding a seat that is not tailored to their disability needs. The additional space in a roll-in shower with a seat can present challenges to people who need to brace themselves against the opposite wall for stability.
- *The table was written originally with the intent to require at least some roll-in showers when hotels typically provided all bathtubs.* Response: The Table comes directly from the 2004 ADAAG which only editorially revised the original 1991 ADA requirements. While originally written to ensure that some roll-in showers would be available, this was because bathtubs were the primary option offered in hotels constructed at that time. Even in 1991, however, the Access Board recognized the value of providing bathing options for people with disabilities. In the history of the IBC, proposals to conform to the requirements of the ADA have unambiguously made clear why both the ADAAG and the IBC contain requirements for roll-in showers as well as bathtubs or transfer showers. The reason statement for Proposal E 176-06/07 states in part: *"This change also meets the intent of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) Section 9.1.4 (1) which requires these facilities to offer persons with disabilities a range of options equivalent to those available to other persons served by the facility. Finally, the modified table is identical to the ADA Draft, "Table 224.2 Guest Rooms with Mobility Features". This draft, published July 23, 2004 awaits final approval from the Department of Justice. The current IBC Table 1107.6.1.1 uses the term "MINIMUM" when referring to the number of rooms associated with roll-in showers. Minimums can always be surpassed, thus allowing roll-in showers to be incorporated in all the accessible units. Some design professionals and hotel chains have done just that, in the belief that roll-in showers were favored by the disabled population. Nothing could be further from the truth. CHOICE and options equivalent to those available without disabilities is the basic premise found in the ADA. Roll-in showers were never intended to replace transfer showers or tubs in accessible rooms. Once again, this is made clear under 9.1.4 (1) of ADA Title III."* This issue was not misconstrued then in 2006/2007 and it should be a simple matter of checking the record. (Please see our bibliography for the cod action referenced here.)
- *Designs for bathrooms have changed. Providing showers instead of tubs has been shown to reduce accidental falls in the bathrooms; while continuing to provide accessible options.* Response: Generally, we agree with this statement although we are unaware of any supporting data using subjects with a variety of disabilities. We believe it should be possible for a hotel to only offer showers, not shower/tubs, in the interest of greater safety. Proposal E-131 would do this.

Proposal E131-21 would have allowed the option to provide all roll-in showers *only* when all guest rooms in the hotel only have showers. While still in conflict with the 2010 ADA Standards, E 131-21 is much narrower in scope than E130-21 and is more consistent with the intent of the 2010 ADA Standards, which is to afford people with disabilities choices of bathing options when others in the same hotel have options.

Please review the reason statement for our public comment supporting approval as submitted for E131-21 and consider disapproving this proposal in favor of E131-21.

Bibliography: See Proposal E176-06/07 Table 1107.6.1.1 at https://www.iccsafe.org/cs/codes/Documents/2006-07cycle/ProposedChanges/volume_1/17-E87-E191.pdf. This proposal was approved as modified. The modification was primarily editorial striking the word "associated" in the column heading reading "MINIMUM REQUIRED NUMBER OF ACCESSIBLE UNITS ASSOCIATED WITH ROLL-IN SHOWERS". The public hearing results can be found at <https://www.iccsafe.org/cs/codes/Documents/2006-07cycle/ROH/IBC-MOE.pdf> and the

final action results are at <https://www.iccsafe.org/cs/codes/Documents/2006-07cycle/ROH/ROH-final.pdf>.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. We believe that the proponent's cost statement in Proposal E-130 that "[t]he code change proposal will not increase or decrease the cost of construction" is inaccurate. If approved as submitted, this code change could have profound cost impacts as it fails to match ADA requirements by allowing only roll-in showers to be provided in *all* hotels, including those that provide other bathing options for people who do not require accessible features. If the Federal 2010 ADA Standards are enforced as written, this section would potentially result in costly retrofits.

Public Comment# 2598

E131-21

Proposed Change as Submitted

Proponents: Marsha Mazz, Director Accessibility Codes and Standards, United Spinal Association, Accessibility Services, representing United Spinal Association (mmazz@accessibility-services.com); Doug Anderson, representing American Hotel and Lodging Association (danderson@lcmarchitects.com); Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

2021 International Building Code

Revise as follows:

1108.6.1.1 Accessible units. *Accessible dwelling units and sleeping units* shall be provided in accordance with Table 1108.6.1.1. On a multiple-building site, where structures contain more than 50 *dwelling units* or *sleeping units*, the number of *Accessible units* shall be determined per structure. On a multiple-building site, where structures contain 50 or fewer *dwelling units* or *sleeping units*, all *dwelling units* and *sleeping units* on a site shall be considered to determine the total number of *Accessible units*. *Accessible units* shall be dispersed among the various classes of units.

Exception. Where all dwelling units and sleeping units contain showers and none contain bath tubs, the total number of required Accessible units specified by Table 1108.6.1.1 shall be permitted to provide standard or alternate roll-in type showers with seats.

Reason: A trend in hotel design is to provide showers and not bathtubs. Although the 2010 ADA Standards require some of the dwelling or sleeping units to have either tubs or transfer showers, the requirement was written in 2004 when this practice was not evident and, in some locations, tubs were required in all units. For most people with disabilities, a roll-in shower with a seat is more accessible than an accessible bathtub or transfer shower. The justification for requiring accessible bathtubs was that some people prefer them and, since other guests have a tub option, people with disabilities should also have that option. However, where the option of a tub instead of a shower is not available to anyone, parity is not at issue and does not make sense.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. The exception provides a choice. Depending on the design, applying the exception could result in a decrease in cost because it will minimize the need to design and construct different types of accessible bathrooms.

Staff Note: E130-21 and E131-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E131-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved as the committee preferred E130-21. This option would only be available if there were no tubs in the entire hotel - including rooms with both a tub and shower. The language does not allow the option for transfer showers. (Vote: 14-0)

Staff Analysis: E130-21 and E131-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

E131-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1108.6.1.1

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com); Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1108.6.1.1 Accessible units . *Accessible dwelling units* and *sleeping units* shall be provided in accordance with Table 1108.6.1.1. On a multiple-building site, where structures contain more than 50 *dwelling units* or *sleeping units*, the number of *Accessible units* shall be determined per structure. On a multiple-building site, where structures contain 50 or fewer *dwelling units* or *sleeping units*, all *dwelling units* and *sleeping units* on a site shall be considered to determine the total number of *Accessible units*. *Accessible units* shall be dispersed among the various classes of units.

Exception Exceptions:

1. Where all dwelling units and sleeping units contain showers and none contain bath tubs, the total number of required Accessible units specified by Table 1108.6.1.1 shall be permitted to provide standard or alternate roll-in type showers with seats.
2. Where Exception 1 to Section 1108.6.1.1 is applicable, transfer showers shall be permitted to be substituted for all but the minimum required number of roll-in showers.

Commenter's Reason: We believe that the Committee erred by disapproving this proposal in favor of E130-21. The Committee's own reason for disapproval is why this proposal should be approved as it more closely follows the 2010 ADA Standards. Committee reasons and responses follow:

- *This option would only be available if there were no tubs in the entire hotel - including rooms with both a tub and shower.* Response: That is correct. This proposal respects the principle of parody reflected in the 1991 and 2010 ADA Standards i.e., where people without disabilities do not have a range of choices in bathing fixtures, people with disabilities are not guaranteed a choice.
- *The language does not allow the option for transfer showers.* Response: Our modification adds an option for transfer showers in hotels without bathtubs. However, it does not replace the requirement for a minimum number of roll-in showers, therefore maintaining consistency with the requirement for some roll-in showers in the 2010 ADA Standards.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction

Like E130-21, this proposal is not in full and strict compliance with the 2010 ADA Standards. However, unlike E 130-21, this proposal limits exposure to ADA law suits by maintaining consistency with the principle of equal treatment which is at the heart of the ADA. Nonetheless, there is a potential that the change could result in a requirement to retrofit some of the dwelling unit bathrooms.

Public Comment# 2630

Proposed Change as Submitted

Proponents: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com); Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com); Matt Lescher, representing Code Consultants, Inc. (mattl@codeconsultants.com)

2021 International Building Code

Revise as follows:

1108.6.2.2.1 Type A units. In Group R-2 occupancies containing more than 20 *dwelling units* or *sleeping units*, at least ~~2~~5 percent but not less than one of the units shall be a *Type A unit*. All Group R-2 units on a site shall be considered to determine the total number of units and the required number of *Type A units*. *Type A units* shall be dispersed among the various classes of units.

Exceptions:

1. The number of *Type A units* is permitted to be reduced in accordance with Section 1108.7.
2. *Existing structures* on a site shall not contribute to the total number of units on a site.

Reason: Section 504 of the Rehabilitation Act of 1973 is a federal law, codified at 29 U.S.C. § 794, that prohibits discrimination on the basis of disability in federally-assisted programs or activities. Federal assistance can come in different forms. It may be directly given from the US Department of Housing and Urban Development (HUD). It can also be given through state and local organizations that received HUD moneys and pass that on to applicants. In so doing, they are required to pass along the requirement for compliance with Section 504. The United States Department of Agriculture (USDA) also has the 5 percent provisions under its Section 504 regulations, which may have more housing than HUD. Every state and local government housing must comply with Title II provisions of the ADA which also have the 5 percent criteria. Additionally, the Architectural Barriers Act (ABA) requires federally owned housing (such as military housing on-base) and housing constructed with federal monies to have the same 5 percent provisions.

Within the pages of the law is the requirement that a number of units meet higher levels of accessibility. These units must comply with either the provisions of the Uniform Federal Accessibility Standards (UFAS) or the 2010 ADA Standards for Accessible Design (2010 Standards). Both contain specific provision that are essentially the same as those for Type A units in the ICC A117.1 standard. However, whereas the IBC requires 2 percent to comply with this level of accessibility, both the federal standards (UFAS and 2010 Standards) require that number to be 5 percent. This proposal would align the IBC provisions with that of HUD for federally assisted projects.

While it is true that not all residential developments are provided with federal assistance, it is also true that the federal government, through HUD, has determined that it is discriminatory to provide fewer than 5 percent of the dwelling units with this higher level of accessibility. Notable exceptions exist. The District of Columbia requires the number of Type A units to be 15 percent. The city of Phoenix requires 6 percent to be Type A units where those dwelling units are located within a close proximity to a light rail station. The state of Washington requires 5 percent; the same as HUD. Illinois and Chicago require 20 percent in certain conditions. The City of New York has incorporated numerous Type A provisions into what they refer to as "B+" units and require those provisions to be applicable to 100 percent of the dwelling units. The state of New Jersey has effectively eliminated Type B units and required all new construction to be Type A.

The United States Department of Agriculture (USDA) also has the 5 percent provisions under its Section 504 regulations, which may have more housing than HUD. Every state and local government housing must comply with Title II provisions of the ADA which also have the 5 percent criteria. Additionally, the Architectural Barriers Act (ABA) requires federally owned housing (such as military housing on-base) and housing constructed with federal monies to have the same 5 percent provisions.

It is time that the ICC recognize the need for increasing the percentage of Type A units as other jurisdictions and multiple federal departments and agencies have already done.

Bibliography: 29 U.S.C. § 794 - Rehabilitation Act of 1973

Cost Impact: The code change proposal will increase the cost of construction

By changing the number of Type A units from two percent to five percent, the difference in cost will be associated with the difference in cost between a Type B unit and a Type A unit. A hard number cannot be determined since the difference is a factor of the overall design concept, any differences in materials and any reconfiguration of layouts. In some instances there will be a definable cost. In some instances there may not be any increase in cost due to the materials and space configuration.

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved. The base code does not need to be aligned with federal funding requirements. If this information is needed, it should be in Appendix E and limited to funded projects. An increase in the number of Accessible units has been addressed in the code in assisted living facilities or will be served by market demand. (Vote: 10-4)

E132-21

Individual Consideration Agenda

Public Comment 1:

Proponents: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com); Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com); Gina Hilberry, representing United Cerebral Palsy (gina@cohenhilberry.com) requests As Submitted

Commenter's Reason: Some on the committee misunderstood the proposal, thinking that it was an attempt to change the code to meet a narrow federal funding situation. Instead, reading the supporting statement shows that it is not only federally funded projects that are addressed. Many funding sources besides the federal government apply these same provisions. And, many municipal jurisdictions have amended the code to include higher percentages of Type A units. The state of New Jersey requires ALL dwelling units to be Type A. The District of Columbia requires 15%. The state of Washington requires 5%. The list is not comprehensive and some jurisdictions have narrow modifications like Phoenix where they require 6% of units to be Type A where located close to the metro rail stops. Also, in St. Louis, Type A units are required where there are 12 or more dwelling units. It isn't a federal issue. More and more jurisdictions are amending the code to up the number of Type A units. The code should be proactive in this case.

The committee also noted that the number of accessible units has been addressed by the number of assisted living units in the code. Many people do not want to move from their community to find assisted living. Ask yourself if you'd prefer to move to an assisted living facility instead of living in your current apartment or moving to a different apartment in the same facility. Why should we be making it harder for people to find suitable housing?

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. As noted in the original proposal the cost will increase the number of Type A units which "could" increase costs. Of course in the places noted above, there would be not increase in cost at all.

Public Comment# 2694

Proposed Change as Submitted

Proponents: Marsha Mazz, Director Accessibility Codes and Standards, United Spinal Association, Accessibility Services, representing United Spinal Association (mmazz@accessibility-services.com); Gene H Boecker, Code Consultants, Inc., representing Code Consultants, Inc. (geneb@codeconsultants.com); Matt Lescher, Code Consultants, Inc., representing Code Consultants, Inc. (mattl@codeconsultants.com); Gina Hilberry, UCP, representing United Cerebral Palsy (gina@cohenhilberry.com)

2021 International Building Code

Revise as follows:

1109.2.9.1 Dining surfaces. ~~Where dining~~ Dining surfaces provided for the consumption of food or drink ~~are provided, at least 5 percent, but not less than one, of the dining surfaces for the seating and standing spaces shall be accessible shall comply with Section 1110.12. and be distributed throughout the facility and located on a level accessed by an accessible route.~~

1110.12 Seating at tables, counters, bars, and work surfaces. ~~Where seating or standing space at fixed, or built-in, or movable tables, counters or work surfaces is~~ are provided for the consumption of food or drink in accessible spaces, at least 5 percent, but not less than one of the seating and standing spaces at such tables but not less than one, shall be accessible. Where fixed or built-in counters or bars are provided for the consumption of food or drink, or fixed or built-in work surface are provided, at least 5 percent, but not less than one, of the seating and standing spaces at such counters, bars, and work surfaces shall be accessible.

Exception: Check-writing surfaces at check-out aisles not required to comply with Section 1110.13.1 are not required to be *accessible*.

1110.12.1 Dispersion. ~~Accessible fixed or built-in~~ seating at tables, counters, bars, or work surfaces shall be distributed among similar elements located throughout the space or facility containing such elements and shall be located on a level accessed by an *accessible route*.

Add new text as follows:

1110.12.2 Semi-ambulatory seating.

Where seating is provided at tables for the consumption of food or drink, at least 25 percent of the tables in any indoor or outdoor room or space shall be tables not exceeding 34 inches in height above the floor.

Reason: The revision to Section 1109.1 simplifies the code by reducing potential confusion. Why are there two nearly identical sections addressing standing and seating spaces at tables (one for assembly spaces and another for everything else)? This proposal simply cross references the main section for tables in this section as they both require 5% of seating to be accessible; dispersion within the space; and location on levels served by accessible routes. The requirements for dispersion in 1012.1 is slightly more specific regarding dispersion of accessible tables "among similar elements" in the facility.

This proposal contains two major parts: first, Section 1110.12 would apply the scoping to both fixed and movable tables that are provided for the consumption of food or drink. New Section 1110.12.2 would ensure that seating that is at an appropriate height for persons who are semi-ambulatory is provided in addition to the wheelchair spaces.

Applying scoping to movable tables: The Department of Justice (DOJ) Americans with Disabilities Act (ADA) regulations prohibit discrimination on the basis of disability in all services, programs, and activities offered by public entities and in the operation of privately owned places of public accommodation. According to the DOJ in an Advance Notice of Proposed Rulemaking *Nondiscrimination on the Basis of Disability by State and Local Governments and Places of Public Accommodation; Equipment and Furniture* published in the Federal Register in 2010 : "The provision of accessible equipment and furniture has always been required by the ADA and the Department's implementing regulations under the program accessibility, reasonable modification, auxiliary aids and services, and barrier removal requirements". (75 FR 43452 at https://www.ada.gov/anprm2010/equipment_anprm_2010.htm). Strictly speaking, the ADA Standards apply to the built environment only. However, DOJ suggests that in many cases, the ADA Standards should be applied to furniture: "To the extent that ADA standards apply requirements for fixed equipment and furniture, the Department will look to those standards for guidance on accessibility standards for equipment and furniture that are not fixed". (75 FR 43454). Although the Department later withdrew the proposed rule because of the complexities, wide ranging scope of coverage, and enormous undertaking involved with developing new scoping and technical criteria for many of the types of equipment, the Department still maintains that movable equipment and furniture must be accessible to and usable by individuals with disabilities. Normally, we would not seek to apply the code and its referenced accessibility standard to furniture. However, the IBC already contains scoping and technical requirements for fixed tables consistent with the 2010 ADA Standards. As such, these requirements can easily be applied to similar movable elements without requiring additional training for their review and inspection. Furthermore, furniture plans are already subject to review for most occupancies with tables used for the consumption of food or drink. Without better coordination between the IBC and ADA, restaurants, bars, and other similar facilities will continue to be at risk of a lawsuit. Please note that we do not propose to make this change for counters, bars, and workstations.

New provision for semi-ambulatory seating: Maintaining a more balanced mix of high and low tables will allow persons who may, because of age or disability move with difficulty, but who do not require the use of wheelchairs. Such individuals could be little people or individuals who may use

canes, crutches, or walkers and be unable to climb up or down from seats at high tables. Currently, high tables are often used for all seating except for the wheelchair seating. Semi-ambulatory individuals, therefore must compete with wheelchair users for the few tables that are not high in order to be safely and comfortably seated. Because such individuals do not require knee and toe space for a wheelchair, the only factor that needs to be controlled is the height of the table.

Cost Impact: The code change proposal will increase the cost of construction

The impact should be minimal because the Department of Justice Americans with Disabilities Act (ADA) regulations already requires non-fixed elements to be accessible in order to avoid discrimination on the basis of disability. Also, DOJ regulations prohibit discrimination on the basis that an individual must use a mobility device, such as canes, crutches, and walkers.

E138-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved for several reasons. The new term 'semi-ambulatory seating' is confusing. There was no justification for the 25% of the tables to have a different level of access in addition to the accessible tables. The proposal adds type of seating as a requirement - so how would someone interpret a 'similar element'. Dining surface requirements should stay in Section 1109. A requirement for 5% of fixed seating and 5% of loose seating does not improve accessibility. The proposed language has removed the requirements for work surfaces in other occupancies. What happens when a facility changes furniture or adds tables? (Vote: 12-2)

E138-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1110.12, 1110.12.1, 1110.12.2

Proponents: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1109.2.9.1 Dining surfaces . Dining surfaces provided for the consumption of food or drink shall comply with Section 1110.12.

1110.12 Seating at tables, counters, bars, and work surfaces . Where fixed, built-in, or movable tables are provided for the consumption of food or drink , at least 5 percent, but not less than one of the seating and standing spaces at such tables shall be *accessible*. Where fixed or built-in counters or bars are provided for the consumption of food or drink, or fixed or built-in work surface are provided, at least 5 percent, but not less than one, of the seating and standing spaces at such counters, bars, and work surfaces shall be accessible.

Exception: Check-writing surfaces at check-out aisles not required to comply with Section 1110.13.1 are not required to be *accessible*.

1110.12.1 Dispersion . ~~Accessible seating at~~ tables, counters, bars, or work surfaces shall be distributed among similar elements located throughout the space or facility containing such elements and, shall be located on a level accessed by an *accessible route*.

~~**1110.12.2 Semi-ambulatory seating .** Where seating is provided at tables for the consumption of food or drink, at least 25 percent of the tables in any indoor or outdoor room or space shall be tables not exceeding 34 inches in height above the floor.~~

Commenter's Reason: To address the committees concerns the proposal relative to semi-ambulatory seating is not being moved forward. It is understood that the concept is confusing and this might not be the best means to address the issue. So, it is proposed to be deleted as part of the public comment. The changes to Section 1110.12 are editorial, dealing with formatting in the original proposal, with one exception. The second sentence clears up some language regarding work surfaces to make it clearer that it's dealing with work surfaces.

The original proposal adds movable (loose) furniture. Contrary to what was said at during committee deliberation, the AHJ already has loose furniture in its purview and is already responsible to review loose furniture in dining areas. Section 1030.13.1 is all about seating at tables and the

needs to create adequate width for aisles and aisle accessways. So, the review of these elements is already a requirement. Because the US Department of Justice views loose dining surfaces that same as fixed dining surfaces, it is important that both be looked at for accessibility compliance.

The original proposal adds "types of seating" was noted. This is true. Again, although the ADA Standards do not address this, the US DOJ does in it's case law under the "spirit and intent" of the law. It is viewed as discriminatory to limit a person to sitting at the bar and not at a table, regardless of whether it is fixed, built-in, or loose. The language was intended to mainstream the provisions to avoid potential legal conflicts in the future.

The committee also mentioned that the provisions for work surfaces was being deleted. That was also a misunderstanding. The first sentence in Section 1110.12 addresses dining surfaces and the second sentence addresses work surfaces. The public comment proposes a clean up in the text to help clarify this.

A question was asked about what happens when a facility changes furniture or adds tables. The answer is the same for this section as it is for Section 1030.13.1. Specifically, if the alteration is significant and requires a permit, the seating must be reviewed. If the change is small enough that a permit isn't required, the facility ownership is responsible for any alterations. This is not an issue.

Finally, the proposal is only trying to streamline the code since the requirement for dining surfaces is practically identical to that for work surfaces. And, the proposal is seeking to include language that will assist in proactively addressing concerns associated with discrimination based on disability.

Bibliography: For the group, a quick search of the DOJ's website, ADA.gov, indicates a number of case laws that address this issue of fixed and loose furnishings as well as dispersion. They are:

US v Golden Greek Restaurant https://www.ada.gov/golden_greek_sa.html

US v Harrisburg Millworks https://www.ada.gov/harrisburg_millworks_sa.pdf

US v Il Pomod'Oro Restaurant and Pizzeria https://www.ada.gov/il_pomodoro_restaurant_sa.html

US v H&A Group (Market Kitchen and Bar) https://www.ada.gov/market_place_sa.html

And the two famous cases:

US v Mrs. K's Toll House Restaurant https://www.ada.gov/mrs_k_sa.htm

US v OPUS 465 and Tresca https://www.ada.gov/opus465_sa.htm

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. Keeping with the intent of the original proposal, any costs would be minimal.

Public Comment# 2704

Public Comment 2:

IBC: 1110.12, 1110.12.1, 1110.12.2

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com); Gina Hilberry, representing United Cerebral Palsy (gina@cohenhilberry.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

1110.12 Seating and standing spaces at dining surfaces ~~tables, counters and work surfaces.~~ . Where seating or standing space is provided at fixed or built-in tables, counters dining surfaces or work surfaces is provided in accessible spaces, at least 5 percent of the such seating and standing spaces, but not less than one, shall be accessible and shall comply with Sections 1110.12.1 through 1110.12.3.

Exception: ~~Check writing surfaces at check-out aisles not required to comply with Section 1110.13.1 are not required to be accessible.~~

1110.12.1 Dining Surfaces . At least 5 percent of the seating and standing space provided at fixed, built-in, and moveable dining surfaces shall be accessible.

1110.12.2 Work Surfaces . At least 5 percent of the seating and standing spaces at fixed or built-in work surfaces shall be accessible.

Exception: Check-writing surfaces at check-out aisles not required to comply with Section 1110.14.1 are not required to be *accessible*.

~~1110.12.1~~ **1110.12.3 Dispersion** . *Accessible* fixed or built-in seating and standing spaces at tables, counters or dining and work surfaces shall be distributed throughout the space or facility containing such elements and shall be located on a level accessed by an *accessible route*.

~~1110.12.2~~ **1110.13 Visiting areas** . Visiting areas in judicial facilities and Group I-3 shall comply with Sections ~~1110.12.2.1~~ **1110.13.1** and ~~1110.12.2.2~~ **1110.13.2**.

~~1110.12.2.1~~ **1110.13.1 Cubicles and counters** . At least 5 percent, but not less than one of the cubicles, shall be *accessible* on both the visitor and detainee sides. Where counters are provided, at least one shall be *accessible* on both the visitor and detainee sides.

Exception: This requirement shall not apply to the detainee side of cubicles or counters at noncontact visiting areas not serving *Accessible unit* holding cells.

~~1110.12.2.2~~ **1110.13.2 Partitions** . Where solid partitions or security glazing separate visitors from detainees, at least one of each type of cubicle or counter partition shall be *accessible*.

Commenter's Reason: This public comment improves the original proposal by:

1. Dropping the proposed changes to Section 1109.2.9.1 which only apply to assembly areas with fixed seating.
2. Dropping the proposed requirement for semi-ambulatory seating.
3. Reformatting Section 1110.12 by adding new subsections 1110.12.2.1 and 1110.12.2.2. One addresses dining surfaces and the other addresses work surfaces.
4. References to "tables" and "counters" in current Section 1110.12.2 are replaced by the term "dining surfaces" which is the term used in current Section 1109.2.9.1. It really doesn't matter whether you are enjoying a meal or a drink at a table or a counter. Furthermore, the term "counter" is often confused with "service counter" and "bar". This change avoids the need to make that distinction.
5. Current code Section 1110.12.2 Visiting areas is unchanged. However, it is removed from Section 1110.12 and renumbered to be a separate Section 1110.13. Like Section 1112.13 *Service facilities*, this section contains provisions unrelated to dining and work surfaces, such as the requirement for partitions separating visitors to be accessible.

The proposed 5% scoping is retained for fixed, built-in, **and moveable** dining surfaces. Moveable work surfaces would not be counted. Please see the reason statement in the original proposal for the justification for applying the scoping to moveable dining surfaces.

Bibliography: For the group, a quick search of the DOJ's website, ADA.gov, indicates a number of case laws that address this issue of fixed and loose furnishings as well as dispersion.

They are:

US v Golden Greek Restaurant https://www.ada.gov/golden_greek_sa.html

US v Harrisburg Millworks https://www.ada.gov/harrisburg_millworks_sa.pdf

US v Il Pomod'Oro Restaurant and Pizzeria https://www.ada.gov/il_pomodoro_restaurant_sa.html

US v H&A Group (Market Kitchen and Bar) https://www.ada.gov/market_place_sa.html

And the two famous cases:

US v Mrs. K's Toll House Restaurant https://www.ada.gov/mrs_k_sa.htm

US v OPUS 465 and Tresca https://www.ada.gov/opus465_sa.htm

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction

The impact should be minimal because the Department of Justice Americans with Disabilities Act (ADA) regulations already requires non-fixed elements to be accessible in order to avoid discrimination on the basis of disability.

Public Comment# 2837

Proposed Change as Submitted

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com); Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com)

2021 International Building Code

Revise as follows:

1110.2 Toilet and bathing facilities. Each toilet room and bathing room shall be *accessible*. Where a floor level is not required to be connected by an *accessible route*, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. Except as provided for in Sections 1110.2.4 and 1110.2.5, at least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing room shall be *accessible*.

Exceptions:

1. Toilet rooms or bathing rooms accessed only through a private office, not for *common* or *public use* and intended for use by a single occupant, shall be permitted to comply with the specific exceptions in ICC A117.1.
2. This section is not applicable to toilet and bathing rooms that serve *dwelling units* or *sleeping units* that are not required to be *accessible* by Section 1108 provided that such toilet or bathing rooms are not for public use.
3. Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be *accessible*.
4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be *accessible*.
5. Toilet rooms or bathing rooms that are part of critical care or intensive care patient sleeping rooms serving *Accessible units* are not required to be *accessible*.
6. Toilet rooms or bathing rooms designed for bariatrics patients are not required to comply with the toilet room and bathing room requirement in ICC A117.1. The *sleeping units* served by bariatrics toilet or bathing rooms shall not count toward the required number of *Accessible sleeping units*.
7. Where permitted in Section 1108, in toilet rooms or bathrooms serving *Accessible units*, water closets designed for assisted toileting shall comply with Section 1110.2.2.
8. Where permitted in Section 1108, in bathrooms serving *Accessible units*, showers designed for assisted bathing shall comply with Section 1110.2.3.
9. Where toilet facilities are primarily for children's use, required *accessible* water closets, toilet compartments and lavatories shall be permitted to comply with children's provision of ICC A117.1.

Reason: This proposal clarifies that toilet and bathing rooms that do not serve dwelling units or sleeping units that are required to be accessible by Section 1108 , but that are also open to the public such as those in a lobby area, must still be accessible.

Cost Impact: The code change proposal will increase the cost of construction

This proposal will increase costs where an Accessible or Type A unit is required by the code, but not required to comply with Federal laws such as the ADA the Architectural Barriers Act, or Section 504 of the Rehabilitation Act of 1973. However, the cost of remediation is very high.

E139-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: The proposal was disapproved because the term 'public use' is confusing and could be interpreted incorrectly - such as would this apply inside a unit? (Vote: 12-2)

E139-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1110.2

Proponents: Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1110.2 Toilet and bathing facilities . Each toilet room and bathing room shall be *accessible*. Where a floor level is not required to be connected by an *accessible route*, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. Except as provided for in Sections 1110.2.4 and 1110.2.5, at least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing room shall be *accessible*.

Exceptions:

1. Toilet rooms or bathing rooms accessed only through a private office, not for *common* or *public use* and intended for use by a single occupant, shall be permitted to comply with the specific exceptions in ICC A117.1.
2. This section is not applicable to toilet and bathing rooms ~~that serve located within dwelling units or sleeping units~~ that are not required to be *accessible* by Section 1108. ~~provided that such toilet or bathing rooms are not for public use.~~
3. Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be *accessible*.
4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be *accessible*.
5. Toilet rooms or bathing rooms that are part of critical care or intensive care patient sleeping rooms serving *Accessible units* are not required to be *accessible*.
6. Toilet rooms or bathing rooms designed for bariatrics patients are not required to comply with the toilet room and bathing room requirement in ICC A117.1. The *sleeping units* served by bariatrics toilet or bathing rooms shall not count toward the required number of *Accessible sleeping units*.
7. Where permitted in Section 1108, in toilet rooms or bathrooms serving *Accessible units*, water closets designed for assisted toileting shall comply with Section 1110.2.2.
8. Where permitted in Section 1108, in bathrooms serving *Accessible units*, showers designed for assisted bathing shall comply with Section 1110.2.3.
9. Where toilet facilities are primarily for children's use, required *accessible* water closets, toilet compartments and lavatories shall be permitted to comply with children's provision of ICC A117.1.

Commenter's Reason: The public comment is seeking to address the issue in the current language where it could be interpreted to exclude any toilet facility in a residential complex. That could include the toilet room in the leasing office or the toilet rooms in the community room or by the swimming pool. These "serve" the residents but not in the sense intended. Rather than use the term public, the public comment clarifies that it is only the toilet and bathing room in the units that are being discussed by the exception.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This is a clarification to address the proper intent of what was originally intended.

Public Comment# 2709

Public Comment 2:

IBC: 1110.2

Proponents: Gina Hilberry, representing United Cerebral Palsy (gina@cohenhilberry.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1110.2 Toilet and bathing facilities . Each toilet room and bathing room shall be *accessible*. Where a floor level is not required to be connected by

an *accessible route*, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. Except as provided for in Sections 1110.2.4 and 1110.2.5, at least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing room shall be *accessible*.

Exceptions:

1. Toilet rooms or bathing rooms accessed only through a private office, not for *common or public use* and intended for use by a single occupant, shall be permitted to comply with the specific exceptions in ICC A117.1.
2. ~~This section is not applicable to toilet and bathing rooms that serve dwelling units or sleeping units that are not required to be accessible by Section 1108 provided that such toilet or bathing rooms are not for public use.~~
- ~~2.~~ 3. Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be *accessible*.
- ~~3.~~ 4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be *accessible*.
- ~~4.~~ 5. Toilet rooms or bathing rooms that are part of critical care or intensive care patient sleeping rooms serving *Accessible units* are not required to be *accessible*.
- ~~5.~~ 6. Toilet rooms or bathing rooms designed for bariatrics patients are not required to comply with the toilet room and bathing room requirement in ICC A117.1. The *sleeping units* served by bariatrics toilet or bathing rooms shall not count toward the required number of Accessible *sleeping units*.
- ~~6.~~ 7. Where permitted in Section 1108, in toilet rooms or bathrooms serving Accessible units, water closets designed for assisted toileting shall comply with Section 1110.2.2.
- ~~7.~~ 8. Where permitted in Section 1108, in bathrooms serving Accessible units, showers designed for assisted bathing shall comply with Section 1110.2.3.
- ~~8.~~ 9. Where toilet facilities are primarily for children's use, required *accessible* water closets, toilet compartments and lavatories shall be permitted to comply with children's provision of ICC A117.1.

Commenter's Reason: The intent of this public comment is to request to delete the exception, rather than to leave the matter as to how it is to be applied unresolved. The ambiguous wording results in commenters and experts having radically differing views regarding which toilet and bathing rooms are eligible for the exception. Some maintain the exception applies to all toilet and bathing rooms outside inaccessible dwelling units and not serving accessible units, while others assert it applies to all toilet and bathing rooms inside inaccessible dwelling units.

Exception 2 to Section cannot apply to toilet and bathing rooms within inaccessible units. What would be the purpose of such an exception? The entire dwelling unit is not required to comply with Section 1108. If we need an exception for the toilet or bathing room in such a unit, we logically also need an exception for the kitchen and other living spaces. How about operable parts, storage, etc.? Moreover, the ICC A117.1 contains the scoping for accessible elements interior to each type of accessible dwelling unit. For example ICC A117.1 Section 1102.11.2 requires "at least one" toilet and bathing facility within an Accessible unit; it further requires "at least one" accessible lavatory, water closet, and bathtub or shower. So, even if one is convinced that an exception is needed for toilet and bathing rooms inside dwelling units that are not required to be accessible, the ICC A117.1 would be the vehicle for this exception, not the IBC.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. It is hard, if not impossible, to calculate the effect of this code change on construction because the application of the exception is unclear. Removing the exception will decrease confusion but could have a cost to developers accustomed to applying the exception in some way or another.

Public Comment# 2907

Public Comment 3:

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com) requests As Submitted

Commenter's Reason: The 2010 ADA Standards contain a General Exception (206.3) that is similar to IBC Exception 2 to Section 110.2. The ADA exception states: *In residential facilities, common use areas that do not serve residential dwelling units required to provide mobility features complying with 809.2 through 809.4 shall not be required to comply with these requirements or to be on an accessible route.* There are several differences between the IBC and ADA exceptions. The ADA exception is far broader than IBC in that it applies to all common use spaces that do not serve units with mobility features, not just toilet and bathing rooms. More importantly, though, it does not exempt any space for public use, including toilet or bathing rooms serving spaces that are otherwise inaccessible. As written, the exception would conflict with the ADA if toilet or bathing rooms are provided for public use and are determined to "serve" dwelling units that are not required to be Accessible, Type A, or Type B units. This scenario occurs frequently. For example, a building, or a portion of a building, not required to provide Accessible, Type A, or Type B units could contain public use space, such as a rental office with toilets. If the rental office toilets serve the occupants of the inaccessible dwelling units as well as members of the public visiting the office, the toilets would be exempt according to the current exception because it exempts all toilets and bathing facilities that do not serve units required to be accessible.

This proposal better clarifies what *is not* exempt. The original language remains ambiguous as to what *is* exempt.

The Committee's only reason for disapproval was "because the term 'public use' is confusing and could be interpreted incorrectly - such as would this apply inside a unit?"

- The term "public use" should not be confusing as it is defined in IBC Section 202 as follows: *PUBLIC-USE AREAS. Interior or exterior rooms or spaces that are made available to the general public.*
- The question of whether the current exception applies to toilet and bathing rooms *within* units exists regardless of what action is taken on this public comment because the exception does not categorize the exempt toilets according to who uses them, as long as they are not occupants of dwelling units required to be Accessible, Type A, or Type B units. Approving this public comment will at least take off the table those toilet and bathing rooms used by the general public.

We urge the membership to Disapprove the Committee Vote and Approve E139-21 as submitted because it harmonizes with the 2010 ADA Standards and will prevent costly non-compliance.

Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. Given the ambiguity regarding which toilet and bathing facilities are exempted by this exception, it is difficult to determine its construction cost.

Public Comment# 2819

E141-21

Proposed Change as Submitted

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com)

2021 International Building Code

Revise as follows:

1110.2.1.2 Family or assisted-use toilet rooms. Family or assisted-use toilet rooms shall include only one water closet and only one lavatory. A family or assisted-use bathing room in accordance with Section 1110.2.1.3 shall be considered to be a family or assisted-use toilet room.

Exception: The following additional fixtures shall be permitted in a family or assisted-use toilet room:

1. A urinal.
2. A child-height water closet.
3. A child-height lavatory.
4. An adult changing station.

Reason: This is a companion proposal to our proposal to create a new 1110.3 Adult Changing Stations. Even if the first proposal is not accepted, this one should be approved so that such facilities can be voluntarily provided in family or assisted-use toilet or bathing facilities.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is an exception and is therefore voluntary.

E141-21

Public Hearing Results

Committee Action:

Disapproved

Committee Reason: This proposal was disapproved as an adult changing table is not a plumbing fixture, so it does not need to be listed as an exception. Adding this could be read by code official as not allowing other common items, such as baby changing tables or lockers - family/assisted use are currently required to provide the same amenities found in the men's or women's rooms. (Vote: 11-2)

E141-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1110.2.1.2

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1110.2.1.2 Family or assisted-use toilet rooms . Family or assisted-use toilet rooms shall include only one water closet and only one lavatory. A family or assisted-use bathing room in accordance with Section 1110.2.1.3 shall be considered to be a family or assisted-use toilet room.

Exception: The following additional plumbing fixtures shall be permitted in a family or assisted-use toilet room:

1. A urinal.

2. A child-height water closet.
3. A child-height lavatory.
4. An adult changing station also used for bathing.

Commenter's Reason: The Committee disapproved this proposal because the items in the list are all "plumbing" fixtures. While it is atypical, adult changing stations can include plumbing as shown in the images below. We would not want this option to be unavailable if someone wishes to provide a bathing option, particularly when the adult changing station is installed in a family or assisted use bathing room. To address the committee's assertion that the list only applies to "plumbing" fixtures, we inserted the word "plumbing" before "fixtures" in the first sentence of the exception so that it is clear that non-plumbed elements, such as a typical adult changing station without a bathing option is not disallowed.

Examples of Adult Changing Stations Designed for Bathing and Changing





Cost Impact: The net effect of the public comment and code change proposal will not increase or decrease the cost of construction. This section does not require any elements to be installed.

Public Comment# 2739

Proposed Change as Submitted

Proponents: Marsha Mazz, Director Accessibility Codes and Standards, United Spinal Association, Accessibility Services, representing United Spinal Association (mmazz@accessibility-services.com); Jay Richards, Board of Building Standards, State of Ohio, representing Board of Building Standards (jay.richards@com.state.oh.us); Gina Hilberry, UCP, representing United Cerebral Palsy (gina@cohenhilberry.com)

2021 International Building Code

Add new text as follows:

1110.3 Adult Changing Stations.

Where required, adult changing stations shall be accessible and shall comply with Sections 1110.3.1 through 1110.3.4.

1110.3.1 Where required.

At least one adult changing station shall be provided in the building in the occupancies listed below:

1. In assembly and mercantile occupancies, where family or assisted-use toilet or bathing rooms are required to comply with Section 1110.2.1.
2. In a college or university business occupancy, where an aggregate of twelve or more male and female water closets or urinals are provided on any floor in a building.
3. In an elementary or high school educational occupancy with an assembly use, where an aggregate of six or more male and female water closets is required for that assembly use.
4. In highway rest stops and service plazas.

1110.3.2 Room.

Adult changing stations shall be located in toilet rooms open to the public that include only one water closet and only one lavatory. Fixtures located in such rooms shall be included in determining the number of fixtures provided in an occupancy.

Exception:

Adult changing stations shall be permitted to be located in family or assisted toilet rooms required in Section 1110.2.1.

1110.3.3 Prohibited location.

The required accessible routes to adult changing stations shall not pass-through security checkpoints.

1110.3.4 Travel distance.

Where buildings are required to have an adult changing station in accordance with Section 1110.3.1, adult changing stations shall be located such that a person is no more than one story above or below the story with the adult changing station and the path of travel to such facility shall not exceed 2000 feet.

Reason: An adult changing station contains a changing table large enough to accommodate an adult-sized person that is located in proximity to sanitary facilities, such as lavatories and trash disposal. Without such facilities, severely disabled people who cannot use toilets because of their disability suffer from severe isolation because they and their caregivers must return home to be changed. This lack of access has a profound impact not only on the person with a disability, but on their caregivers who are often their immediate family members. Normal activities outside the home such as shopping, entertainment, and travel must be curtailed because of a lack of safe and sanitary places to change. On occasion, caregivers report they have no option other than to change the adults for whom they care on restroom floors. Aside from the obvious sanitation concerns which is far from minimal, this practice raises serious questions about how we as a community afford people with significant disabilities a measure of human dignity and protect their right to privacy.

In order to address this problem, the ICC A117 committee established a task group to develop requirements for adult changing stations. The committee is expected to complete its work in March, 2021 - in time for consideration by the full committee for inclusion in the next edition of the standard which we expect to be available in time to be referenced by the 2024 IBC. The task group is comprised of committee members and interested parties - many of whom are parents of adult disabled children or who are caring for their parents. While these accommodations are not typically provided in any other type of occupancy, eleven airports, soon to be twelve, in the United States already voluntarily provide adult changing tables. Advocates for adult changing stations have had minimal success outside the code development process through state legislation, such as in California, Georgia, Canada, and the European Union. However, we believe that the building code is a far more appropriate vehicle for solving what amounts to a problem in the built environment and, we are convinced that a patchwork of state and local requirements is inefficient and presents unnecessary compliance challenges to building owners and managers.

Cost Impact: The code change proposal will increase the cost of construction

There will be the cost of a changing table and the increase in room size. We have made every attempt to minimize costs by piggy backing on the existing requirements for family or assisted-use toilet rooms.

Public Hearing Results

Committee Action:

As Submitted

Committee Reason: The proposal was approved, however it needs a public comment to address some of the language concerns. Adult changing tables are a much needed item to serve some people with disabilities and their caregivers when they are out in public. The technical questions for adult changing table and the rooms they will be located in will be addressed in the next edition of ICC A117.1. Adding to the existing requirements for family/assisted use toilet rooms is a good idea, however the scoping language in Section 1110.3.1 needs some improvement. Section 1110.3.1 Item 2 could be read as the business offices in colleges, and the proponents said the intent was to serve the classrooms and lecture halls. Section 1110.3.1 Item 1 and 3 are redundant. There should be signage requirements for where this is located within the building. Section 1110.3.2 may not be needed if this is addressed in the technical provisions (see the committee action on E141-21). Section 1110.3.4 - if the intent is to require the adult changing tables in every other family/assisted use toilet room in large facilities it may be better to say that rather than set a travel distance that may be read differently. (Vote: 14-0)

E142-21

Individual Consideration Agenda

Public Comment 1:

IBC: 1110.3

Proponents: David Collins, representing The American Institute of Architects (dcollins@preview-group.com) requests As Modified by Public Comment

Further modify as follows:

2021 International Building Code

1110.3 Adult Changing Stations . Where provided, adult changing stations shall be accessible. Where required, adult changing stations ~~shall be accessible and shall also~~ comply with Sections 1110.3.1 through 1110.3.4.

Commenter's Reason: The Code Committees considered two provisions for adult changing tables. E142 added provisions for adult changing tables in Assembly and Mercantile occupancies, college or university business with an aggregate of twelve or more water closets, elementary or high schools with an assembly use with an aggregate of six or more water closets and highway rest stops and service plazas. This change was approved.

P37 included a very general reference that included no occupancy conditions but requiring that those provided "in addition to the requirements of the IBC" must meet the requirements for location, privacy, etc. This section is an extracted provision whose language would not make sense in Chapter 29 of the IBC. This change failed.

An adult changing station, whether required or voluntarily installed, is a feature providing accessibility for adults and should be addressed totally in Chapter 11 of the IBC. That is where the reference to A117.1 is found and where the provisions for the adult changing station should be located whether required or voluntarily installed.

Please approve this change as modified by the public comment.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction. Installations that are not required will be made simpler and provide better access for users if they are directed to provide an accessible feature that meets the A117.1 standard.

Public Comment# 2620

Public Comment 2:

IBC: 1110.3, 1110.3.1 , 1110.3.2, 1110.3.3, 1110.3.4

Proponents: Marsha Mazz, representing United Spinal Association (mmazz@accessibility-services.com); Gene Boecker, representing Code Consultants, Inc. (geneb@codeconsultants.com); Jay Richards, representing Board of Building Standards (jay.richards@com.state.oh.us); Julius Ballanco, representing Self (jbengineer@aol.com); Gina Hilberry, representing United Cerebral Palsy (gina@cohenhilberry.com); Lawrence Perry, representing self (lperryaia@aol.com); Laurel Wright, representing self (lwwright8481@icloud.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1110.3 Adult Changing Stations . Where required, adult changing stations shall be accessible and shall comply with Sections 1110.3.1 through 1110.3.4.

1110.3.1 Where required . At least one adult changing station shall be provided in all the following locations ~~the building in the occupancies listed below:~~

1. In assembly and mercantile occupancies, where family or assisted-use toilet or bathing rooms are required ~~by to comply with~~ Section 1110.2.1.
2. ~~In a college or university business occupancy, where an aggregate of twelve or more male and female water closets or urinals are provided on any floor in a building.~~
In Group B occupancies providing educational facilities for students above the 12th grade, where an aggregate of twelve or more male and female water closets are required to serve the classrooms and lecture halls.
3. ~~In an elementary or high school educational occupancy with an assembly use, where an aggregate of six or more male and female water closets is required for that assembly use.~~ In Group E occupancies, where a room or space used for assembly purposes requires an aggregate of six or more male and female water closets for that room or space.
4. In highway rest stops and highway service plazas.

1110.3.2 Room . Adult changing stations shall be located in toilet rooms ~~open to the public~~ that include only one water closet and only one lavatory. Fixtures located in such rooms shall be included in determining the number of fixtures provided in an occupancy. The occupants shall have access to the required adult changing station at all times that the associated occupancy is occupied.

Exception:

Adult changing stations shall be permitted to be located in family or assisted toilet rooms required in Section 1110.2.1.

1110.3.3 Prohibited location . ~~The required accessible routes to adult changing stations shall not pass through security checkpoints. The accessible route from separate-sex toilet or bathing rooms to an accessible adult changing station shall not require travel through security checkpoints.~~

1110.3.4 Travel distance . ~~Where buildings are required to have an adult changing station in accordance with Section 1110.3.1, The adult changing stations~~ shall be located on an accessible route such that a person is no more than one story two stories above or below the story with the adult changing station and the path of travel to such facility shall not exceed 2000 feet.

Commenter's Reason: This proposal to require adult changing stations was Approved as Submitted with a vote of 14-0. However, during testimony, comments requested some clarifications that would improve the content. This public comment addresses that testimony:

1110.3.1 Where required. We simplified the main text by merely pointing to the locations where an adult changing station is required. There was no need to refer to a "building" or to "occupancies" as the list is sufficient.

- Changes to Item #1 are merely editorial - better code language.
- Changes to Item #2 were made to: (1) avoid any misinterpretation that the requirement for an adult changing station applies to office spaces in college buildings; and (2) clarify that the requirements apply to locations where 12 or more water closets are required to serve classrooms and lecture halls.
- Changes to Item #3 include more precise code language regarding Group E. Also, the changes clarify that the scoping applies to individual assembly spaces, such as basketball gyms or theaters in a school, rather than a combination of all assembly spaces. Of course designers always have the option of designing spaces so that a single installation serves more than one assembly area. However, since assembly spaces are often used for after school activities potentially open to the public as well as in-school activities for students and faculty, we want to be assured that each space is analyzed separately to ensure an accessible route and that spaces are not locked off by gates or other measures preventing access. We want to note that under other state and federal laws, the school must address needs for students with disabilities occupying classrooms and other spaces not covered by this proposal as part of their educational program.
- The change to Item #4 clarifies that the provision applies to rest stops and service plazas that are integral to the highway system i.e., those that are entered and exited from the highway, not to facilities along a travel route where one could come or go from somewhere other than a highway.

1110.3.2 Room. This change is editorial. In the original proposal, the requirement that the toilet room must be "open to the public" was meant to ensure that adult changing stations are available and not locked off during different operating hours, as is often the case in a school where

classroom areas are blocked by gates during evening or weekend events. The committee found the phrase "open to the public" to be ambiguous. This change deletes that phrase and in its place, adds a new sentence to clarify that the goal is to have access to the required facilities.

1110.3.3 Prohibited location. The change to this section clarifies that the accessible route cannot have security checkpoints between the separate sex toilet and bathing facilities and the adult changing station. For example, if everyone in an assembly or mercantile occupancy must first pass through a security checkpoint before they encounter toilet facilities, then the same would be true for people needing an adult changing station.

1110.3.4 Travel distance. This change was made in recognition of the fact that the provisions of the IPC allow 500 feet and one story travel distance to a restroom and, where required, another 500 feet and one story to get to a family or assisted use toilet room. The intent is to allow some flexibility in very large facilities, so that some, but not all, of the family or assisted use toilet rooms may not be required to provide an adult changing station. We recognize that the vertical portion of the accessible route will not be a stair, but will likely be an elevator. Therefore, those needing an adult changing station would potentially have to travel in the elevator two stories versus one.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction. In the original proposal, we made every effort to minimize the cost impact. Section 1110.3 of this public comment further minimizes the impact by increasing the travel distance.

Public Comment# 2691