

-----Original Message-----

From: Richardson, Dennis [<mailto:DRichardson@awc.org>]

Sent: Sunday, April 10, 2016 1:25 PM

To: Maeda, Pamela@DGS

Cc: Benny, Katrina@DGS; CBSC@DGS; Bland, Kenneth

Subject: Communication to the CBSC regarding item 9 April 19 CBSC agenda.

Hi Pamela,

This is in regard to item 9 of the April 19, 2016 Building Standards Commission meeting agenda. I will be unable to attend the CBSC meeting because I will be in Louisville KY testifying at the Group B Code hearings for the 2018 IBC. American Wood Council has prepared and submitted a package of seven code change proposals affecting balconies and elevated walkways (copy attached). Depending on the outcome of these hearings and the following governmental member vote, these code changes may be included in the 2018 IBC.

Please distribute the attached package of proposals to the CBSC members along with this email as a request to be kept informed of the formation of this committee and activities.

At this time, if possible we would like to request the opportunity to participate as a member of any committee that is formed. American Wood Council is committed to making sure building codes are practical, adequate and construction is built safely.

Thank you for forwarding this to the California Building Standards Commission.

Best Regards, Dennis

Dennis Richardson, PE, CBO, CASp
West Coast Manager, Codes and Standards
AMERICAN WOOD COUNCIL
2777 Yulupa Ave. #126, Santa Rosa, CA 95405
Office: 707-538-2786
Email: drichardson@awc.org

ADM77-16

IBC: 107.2.5 (New); IEBC: 106.2.5 (New)

Proponent : Dennis Richardson, American Wood Council, representing American Wood Council (drichardson@awc.org)

2015 International Building Code

Add new text as follows:

107.2.5 Exterior balcony and elevated walking surfaces. Where balcony or other elevated walking surfaces are exposed to water from direct or blowing rain, snow, or irrigation, and the structural framing is protected by an impervious moisture barrier, the construction documents shall include details for all elements of the impervious moisture barrier system. The construction documents shall include manufacturer's installation instructions.

2015 International Existing Building Code

Add new text as follows:

106.2.5 Exterior balconies and elevated walking surfaces. Where balcony or other elevated walking surfaces are exposed to water from direct or blowing rain, snow, or irrigation, and the structural framing is protected by an impervious moisture barrier, the construction documents shall include details for all elements of the impervious moisture barrier system. The construction documents shall include manufacturer's installation instructions.

Reason: Existing language in IBC Section 107.2.4 and IEBC 106.2.4 specifies requirements for the construction documents associated with the wall envelope but is silent how that extends to balcony and elevated walking surfaces where an impervious moisture barrier system protects structural elements. This new section is proposed that will add detailing requirements for exterior balcony and elevated walking surfaces.

Cost Impact: Will not increase the cost of construction

This will not increase the cost of construction as the inclusion of construction details for weather protection is a common requirement already enforced by most building departments. This clarifies existing code language to be consistent with common practice.

ADM77-16 : 107.2.5 (NEW)-
RICHARDSON12193

ADM87-16

IBC: 110.3.6 (New); IEBC: 109.3.6 (New)

Proponent : Dennis Richardson, American Wood Council, representing American Wood Council (drichardson@awc.org)

2015 International Building Code

Add new text as follows:

110.3.6 Weather exposed balcony and walking surface waterproofing. Where balcony or other elevated walking surfaces are exposed to water from direct or blowing rain, snow, or irrigation, and the structural framing is protected by an impervious moisture barrier, all elements of the impervious moisture barrier system shall be subject to inspection.

Exception: Where special inspections are provided in accordance with Section 1705.1.1, Item 3.

2015 International Existing Building Code

Add new text as follows:

109.3.6 Weather exposed balcony and walking surface waterproofing. Where balcony or other elevated walking surfaces are exposed to water from direct or blowing rain, snow, or irrigation, and the structural framing is protected by an impervious moisture barrier, all elements of the impervious moisture barrier system shall be subject to inspection.

Exception: Where special inspections are provided in accordance with Section 1705.1.1, Item 3 of the International Building Code.

Reason: Detailed inspections are needed to ensure the performance of the impervious moisture barrier used with exposed balconies and walking surfaces. As an exception, Section 1705.1.1 item 3 of the current code allows the building official to require special inspections of: "Materials and systems required to be installed in accordance with additional manufacturers's instructions that prescribe requirements not contained in this code or in standards referenced by this code." This would be acceptable in lieu of inspections performed by the building department staff when utilized by the building official.

Cost Impact: Will not increase the cost of construction

This will not increase the cost of construction as Section 110.3.8 currently requires "other inspections" to ascertain compliance with the code. The proposal also gives the existing option of special inspections in 1705.1.1 item 3 as an exception to this provision.

ADM87-16 : 110.3.6 (NEW)-
RICHARDSON12230

S1-16

IBC: 1401.1, 1501.1.

Proponent : Dennis Richardson, American Wood Council, representing American Wood Council (drichardson@awc.org)

2015 International Building Code

Revise as follows:

1401.1 Scope. The provisions of this chapter shall establish the minimum requirements for exterior walls; *exterior wall* coverings; *exterior wall* openings; exterior windows and doors; ~~and architectural trim; balconies and similar projections; and bay and oriel windows.~~

1501.1 Scope. The provisions of this chapter shall govern the design, materials, construction and quality of roof assemblies, ~~and rooftop structures~~ , and balconies where the structural framing is protected by an impervious moisture barrier.

Reason: Provisions regarding ventilation for balconies that are protected by an impervious barrier yet are located outside of the building envelope are being added to Chapter 15 (new Section 1503.7) under a separate proposal. Since a balcony outside of the building envelope that has weather protection and supports loads most closely resembles a roof (see definition of roof assembly in IBC Section 202), it is felt chapter 15 is the most appropriate place for this provision. This code change revises the scoping statement of Chapter 15 to reflect this and also corrects the scoping statement in Chapter 14 Section 1401 that was not modified when Group A code change FS15-15 removed Balconies, similar projections and Bay and oriel windows from Chapter 14.

Cost Impact: Will not increase the cost of construction

This code change merely clarifies the scoping of chapters and references needing correction from a previous code change and does not change any provision of the code affecting cost.

S1-16 : 1501.1-RICHARDSON12728

S6-16

IBC: 1503.6 (New).

Proponent : Dennis Richardson, American Wood Council, representing American Wood Council (drichardson@awc.org)

2015 International Building Code

Add new text as follows:

1503.6 Enclosed eave ventilation Vents shall be provided in accordance with Section 1203.2 where roof eaves or porch soffits are enclosed creating concealed space outside of the building envelope.

Reason: Section 1203.2 provides the requirements for ventilation of rafter spaces that are enclosed by a ceiling above the interior environment. Since this section is in Chapter 12 it is not clear that enclosed rafter spaces and attic space outside of the building envelope on a porch or eave must also be ventilated. Subsequent numbers are renumbered.

Cost Impact: Will not increase the cost of construction
This change does not add additional requirements. It clarifies the intent of the current code.

S6-16 : 1503.6 (NEW)-
RICHARDSON12268

S7-16

IBC: 1503.7 (New).

Proponent : Dennis Richardson, American Wood Council, representing American Wood Council (drichardson@awc.org)

2015 International Building Code

Add new text as follows:

1503.7 Ventilation required beneath balcony or elevated walking surfaces. Enclosed framing in exterior balconies and elevated walking surfaces that are exposed to rain, snow, or drainage from irrigation, where the structural framing is protected by an impervious moisture barrier, shall be provided with openings that provide a net free cross ventilation area not less than 1/150 of the area of each separate space. Where framing supports such surfaces over 30 inches (762 mm) above grade, the ventilation openings shall be designed to allow inspection of framing material.

Reason: This change clarifies the intent of the code when a balcony or elevated walking surface serves as a weather resistant barrier and the joist spaces below are enclosed, cross ventilation is required as for enclosed rafter spaces of roofs. When the ventilation is provided for elevated walking surfaces, the ventilation openings must be designed to accommodate routine inspection of the framing material for decay or corrosion.

Cost Impact: Will increase the cost of construction

Some vent openings may need to be modified to accommodate inspection of framing material. Many vent covers that are easily removable and re-installed with hand tools already comply with the intent of this requirement.

S7-16 : 1503.7 (NEW)-
RICHARDSON12270

S86-16

IBC: 1607.1.

Proponent : Edwin Huston, representing National Council of Structural Engineers' Associations (NCSEA) (huston@smithhustoninc.com); Dennis Richardson, representing American Wood Council (drichardson@awc.org); Karl Rubenacker, representing Codes & Standards Committee, Structural Engineer's Association of New York (karl.rubenacker@gmsllp.com)

2015 International Building Code

Revise as follows:

TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L_0 , AND MINIMUM CONCENTRATED LIVE LOADS⁹

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (pounds)	
1. Apartments (see residential)	—	—	
2. Access floor systems			
Office use	50	2000	
Computer use	100	2000	
3. Armories and drill rooms	150 ^m	—	
4. Assembly areas		—	
Fixed seats (fastened to floor)	60 ^m		
Follow spot, projections and control rooms	50		
Lobbies	100 ^m		
Movable seats	100 ^m		
Stage floors	150 ^m		
Platforms (assembly)	100 ^m		
Other assembly areas	100 ^m		
5. Balconies and decks ^h	Same as occupancy served 1.5 times the live load for the area served. Not required to exceed 100 psf (4.79 kN/m ²)		—
6. Catwalks	40		300
7. Cornices	60	—	
8. Corridors	100 Same as occupancy served except as indicated	—	
First floor			
Other floors			
9. Dining rooms and restaurants	100 ^m	—	
10. Dwellings (see residential)	—	—	
11. Elevator machine room and control room grating (on area of 2 inches by 2 inches)	—	300	
12. Finish light floor plate construction (on area of 1 inch by 1 inch)	—	200	
13. Fire escapes	100	—	
On single-family dwellings only	40		
14. Garages (passenger vehicles only)	40 ^m	Note a	

Trucks and buses	See Section 1607.7	
15. Handrails, guards and grab bars	See Section 1607.8	
16. Help pads	See Section 1607.6	
17. Hospitals		
Corridors above first floor	80	1,000
Operating rooms, laboratories	60	1,000
Patient rooms	40	1,000
18. Hotels (see residential)	—	—
19. Libraries		
Corridors above first floor	80	1,000
Reading rooms	60	1,000
Stack rooms	150 ^{b, m}	1,000
20. Manufacturing		
Heavy	250 ^m	3,000
Light	125 ^m	2,000
21. Marquees, except one-and two-family dwellings	75	—
22. Office buildings		
Corridors above first floor	80	2,000
File and computer rooms shall be designed for heavier loads based on anticipated occupancy	—	—
Lobbies and first-floor corridors	100	2,000
Offices	50	2,000

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (pounds)
23. Penal institutions		—
Cell blocks	40	
Corridors	100	
24. Recreational uses:		—
Bowling alleys, poolrooms and similar uses	75 m	
Dance halls and ballrooms	100 m	
Gymnasiums	100 m	
Ice skating rink	250 m	
Reviewing stands, grandstands and bleachers	100 c, m	
Roller skating rink	100 m	
Stadiums and arenas with fixed seats (fastened to floor)	60 c, m	

25. Residential		—			
One- and two-family dwellings					
Uninhabitable attics without storage i	10				
Uninhabitable attics with storage i, j, k	20				
Habitable attics and sleeping areas k	30				
Canopies, including marquees	20				
All other areas	40				
Hotels and multifamily dwellings					
Private rooms and corridors serving them	40				
Public rooms m and corridors serving them	100				
26. Roofs					
All roof surfaces subject to main- tenance workers		300			
Awnings and canopies:					
Fabric construction supported by a skeleton structure	5 Nonreducible				
All other construction, except one-and two-family dwellings	20				
Ordinary flat, pitched, and curved roofs (that are not occupiable)	20				
Primary roof members exposed to a work floor					
Single panel point of lower chord of roof trusses or any point along primary structural members supporting roofs over manufacturing, storage warehouses, and repair garages		2,000	All other primary roof members		300
Occupiable roofs:					
Roof gardens	100				
Assembly areas	100 ^m				
All other similar areas	Note 1	Note 1			
27. Schools					
Classrooms	40	1,000			
Corridors above first floor	80	1,000			
First-floor corridors	100	1,000			
28. Scuttles, skylight ribs and accessible ceilings	—	200			
29. Sidewalks, vehicular driveways and yards, subject to trucking	250 ^{d, m}	8,000 ^e			
OCCUPANCY OR USE			UNIFORM (psf)		CONCENTRATED (pounds)
30. Stairs and exits					

One- and two-family dwellings	40	300f
All other	100	300f
31. Storage warehouses (shall be designed for heavier loads if required for anticipated storage)		
Heavy	250m	—
Light	125m	
32. Stores		
Retail		
First floor	100	1,000
Upper floors	75	1,000
Wholesale, all floors	125m	1,000
33. Vehicle barriers	See Section 1607.8.3	
34. Walkways and elevated platforms (other than exitways)	60	—
35. Yards and terraces, pedestrians	100 ^m	—

For SI: 1 inch = 25.4 mm, 1 square inch = 645.16 mm²,

1 square foot = 0.0929 m²,

1 pound per square foot = 0.0479 kN/m², 1 pound = 0.004448 kN,

1 pound per cubic foot = 16 kg/m³.

- a. Floors in garages or portions of buildings used for the storage of motor vehicles shall be designed for the uniformly distributed live loads of this Table or the following concentrated loads: (1) for garages restricted to passenger vehicles accommodating not more than nine passengers, 3,000 pounds acting on an area of 4¹/₂ inches by 4¹/₂ inches; (2) for mechanical parking structures without slab or deck that are used for storing passenger vehicles only, 2,250 pounds per wheel.
- b. The loading applies to stack room floors that support nonmobile, double-faced library book stacks, subject to the following limitations:
 1. The nominal book stack unit height shall not exceed 90 inches;
 2. The nominal shelf depth shall not exceed 12 inches for each face; and
 3. Parallel rows of double-faced book stacks shall be separated by aisles not less than 36 inches wide.
- c. Design in accordance with ICC 300.
- d. Other uniform loads in accordance with an approved method containing provisions for truck loadings shall be considered where appropriate.
- e. The concentrated wheel load shall be applied on an area of 4.5 inches by 4.5 inches.
- f. The minimum concentrated load on stair treads shall be applied on an area of 2 inches by 2 inches. This load need not be assumed to act concurrently with the uniform load.
- g. Where snow loads occur that are in excess of the design conditions, the structure shall be designed to support the loads due to the increased loads caused by drift buildup or a greater snow design determined by the building official (see Section 1608).
- h. See Section 1604.8.3 for decks attached to exterior walls.
- i. Uninhabitable attics without storage are those where the maximum clear height between the joists and rafters is less than 42 inches, or where there are not two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses. This live load need not be assumed to act concurrently with any other live load requirements.
- j. Uninhabitable attics with storage are those where the maximum clear height between the joists and rafters is 42 inches or greater, or where there are two or more adjacent trusses with web configurations capable of accommodating an assumed rectangle 42 inches in height by 24 inches in width, or greater, within the plane of the trusses.
The live load need only be applied to those portions of the joists or truss bottom chords where both of the following conditions are met:
 - i. The attic area is accessible from an opening not less than 20 inches in width by 30 inches in length that is located where the clear height in the attic is a minimum of 30 inches; and
 - ii. The slopes of the joists or truss bottom chords are no greater than two units vertical in 12 units horizontal.
 The remaining portions of the joists or truss bottom chords shall be designed for a uniformly distributed concurrent live load of not less than 10 pounds per square foot.
- k. Attic spaces served by stairways other than the pull-down type shall be designed to support the minimum live load specified for habitable attics and sleeping rooms.
 - l. Areas of occupiable roofs, other than roof gardens and assembly areas, shall be designed for appropriate loads as approved by the building official. Unoccupied landscaped areas of roofs shall be designed in accordance with Section 1607.12.3.
 - m. Live load reduction is not permitted unless specific exceptions of Section 1607.10 apply.

Reason: For historical context, the 2006 IBC and 2005 ASCE 7-05 contained similar language in that balconies and decks were treated as different uses and had different uniform loading criteria. Then the IBC diverged from matching ASCE 7 in 2006 under S9-06/07 when the IBC combined the separate occupancy categories balconies and decks into one item, with the uniform loading set as the "Same as occupancy served" force level. ASCE 7-10 followed suit in combining balconies and decks as a single item, however the uniform loading was set at 1.5 times the live load for the area served, with an upper bound not required to be greater than 100 psf. To harmonize the ASCE and IBC and IRC live loading requirements, this proposal is using the ASCE 7 load requirements for the baseline minimum live loads on balconies and decks.

Cost Impact: Will increase the cost of construction

For an ASCE 7 compliant design there is no increase in loading and thus no change in construction cost. For an IBC/IRC compliant design the loading of balconies and decks will increase possibly increasing the cost of structural framing for the support of these structures.

S86-16 : 1607.1-HUSTON13588

S279-16

IBC: 2304.12.2.5.

Proponent : Dennis Richardson, American Wood Council, representing American Wood Council (drichardson@awc.org)

2015 International Building Code

Revise as follows:

2304.12.2.5 Supporting members for permeable floors and roofs. Wood structural members that support moisture-permeable floors or roofs that are exposed to the weather, such as concrete or masonry slabs, shall be of naturally durable or *preservative-treated wood* unless separated from such floors or roofs by an impervious moisture barrier. The impervious moisture barrier system protecting the structure supporting floors shall include elements providing positive drainage of water that infiltrates the moisture-permeable floor topping.

Reason: A key functional requirement of impervious moisture barrier systems installed under a permeable floor system exposed to water are elements that provide for drainage of any water making its way through the permeable floor system. Without a properly functioning method to transport this water out, the floor assembly can stay saturated for very long periods of time possibly contributing to premature failure. This code proposal creates a requirement for impervious moisture barrier systems protecting the structure, supporting a floor, to provide a mechanism for the water to drain out.

Cost Impact: Will increase the cost of construction

Drainage elements between the permeable floor slab and impervious barrier are commonly called for and installed by many practitioners and will not change the cost of construction in those cases. However in cases where no method to provide positive drainage is currently provided, this proposal will increase the cost of construction.

S279-16 : 2304.12.2.5-
RICHARDSON12652