



Robert F. McDonnell
Governor

James S. Cheng
Secretary of
Commerce and Trade

COMMONWEALTH of VIRGINIA

William C. Shelton
Director

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT

MEMORANDUM

To: Stakeholders

From: Emory Rodgers, Deputy Director
Division of Building and Fire Regulation

Date: August 14, 2013

Subject: Supplemental Materials for the DHCD Workgroup Meeting - August 22, 2013

PART ONE – VBCOA ADMINISTRATIVE

DESCRIPTION	Page #
Items 2 and 3: C108.2 - New proposal from VBCOA Admin Committee	1
Item 4: CB3411.1 - Additional proposal from John Catlett	2
Item 5: CRR311.2.1 - New proposal from VBCOA Admin Committee with comments (three emails, all entitled "RE: Interior Passage")	4
Item 7: A75A - New proposal from VBCOA Admin Committee	24

PART ONE - USBC VCC REGULATIONS

DESCRIPTION	Page #
Item 2: CB408.2.1 - Options 1 and 2 withdrawn; Option 3 revised	26
Item 15: Options 2 and 3 withdrawn; Options 1 and 4 remain, with preference for Option 1	No new handout
Item 17: CB2603.5.5(1) and (3) - Option 2 withdrawn; revised supporting statements on Options 1 and 3	30
Item 18: CB2902.1 - Revised proposal	37
Item 21: F5704 - Additional proposal	41

PART TWO – VBCOA IRC

DESCRIPTION	Page #
Item 11: CRR507 - Revised proposal	42

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VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: _____

Proponent Information

(Check one): X Individual Government Entity Company

Name: John Catlett

Representing: VBCOA Administration Committee

Mailing Address: 301 King Street, Alexandria, Virginia 22314

Email Address: john.catlett@alexandriava.gov

Telephone Number: 703.746.4182

Proposal Information

Code(s) and Section(s): VCC Section 108.2; Exceptions

Proposed Change (including all relevant section numbers, if multiple sections):

108.2 Exemptions from application for permit. Notwithstanding the requirements of Section 108.1, application for a permit and any related inspections shall not be required for the following; however, this section shall not be construed to exempt such activities from other applicable requirements of this code. In addition, when an owner or an owner's agent requests that a permit be issued for any of the following, then a permit shall be issued and any related inspections shall be required.

1. Installation of wiring ...

11. Construction work deemed by the building official to be minor and ordinary, and which does not adversely affect public health or general safety.

No change to the remainder of this section.

Supporting Statement (including intent, need, and impact of the proposal):

The VBCOA Administrative Provisions Committee felt that recent proposed changes to exempt flag poles and residential ramps were again adding to a rather lengthy "laundry list" that needs some level of curtailment. The committee felt that several very local issues were driving the code change process and consistency throughout the state was in jeopardy.

It was recently found when surveying localities regarding residential gas dryer, stove and oven replacement permit requirements that the code enforcement agencies were nearly split. This change provides needed guidance to continue to allow flexibility in applying the USBC and recognizes the current practice by many code officials and customers. It does not relieve the person doing work with complying with code requirements; it only exempts them from obtaining a permit if the building official deems the work minor and not a threat to public health and safety.

There was general consensus within the VBCOA Administration Committee on the premise of this code change, which is to allow some local decision making of the need for permits for the application of the code to the building official.

Submittal Information

Date Submitted: July 12, 2013

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: _____

Proponent Information

(Check one): Individual Government Entity Company

Name (Representing):

John Catlett, MCP – Director, Alexandria Dept. of Code Administration. 703.746.4182, john.catlett@alexandriava.gov

Proposal Information

Code(s) and Section(s): USBC, Virginia Construction Code Sections 3411.1 , 3411.6 (Revised Jul1, 2013)

Proposed Change (including all relevant section numbers, if multiple sections):

Modify as shown:

.ACCESSIBILITY FOR EXISTING BUILDINGS

3411.1 Scope. The provisions of Sections 3411.1 through 3411.9 apply to maintenance, change of occupancy, *addition* and *alterations* to existing buildings and site conditions, including those identified as *historic buildings*.

3411.6 Alterations. A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of this code, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible. When restriping an existing parking facility that does not contain accessible parking, at least one van accessible parking space shall be provided in facilities serving use groups A, B, E, M, R1, and I.

Exceptions:

1. The altered element or space is not required to be on an *accessible* route, unless required by Section 3411.7.
2. *Accessible means of egress* required by Chapter 10 are not required to be provided in existing facilities.
3. The *alteration* to Type A individually owned dwelling units within a Group R-2 occupancy shall be permitted to meet the provision for a *Type B dwelling unit*.
4. *Type B dwelling or sleeping units* required by Section 1107 of this code are not required to be provided in existing buildings and facilities undergoing a change of occupancy in conjunction with alterations where the work area is 50 percent or less of the aggregate area of the building.
5. Non-residential occupancies within strip malls, or sharing a common parking area with other commercial businesses.
6. Non-residential occupancies located within strip malls, or sharing a common parking area with non-medical commercial businesses.
7. Non-residential occupancies located in residence of the service provider.
8. Parking facilities with 5 or less spaces.
9. When restriping existing parking facilities and full compliance with Section 1106 would create a violation of local ordinances establishing a minimum number of parking spaces, compliance with Section 1106 shall be achieved to the maximum extent possible as approved by the building official..

Supporting Statement (including intent, need, and impact of the proposal):

This proposal results from the initial and subsequent reviews by DHCD workgroups of proposals submitted by a legislative study group (the HJR 648 Study Group). This proposal is offered as an additional compromise submitted by the HJR 648 study group and is being submitted by groups involved in the HJR 648 study.

This latest compromise builds on previous proposals and addresses concerns expressed by the Codes and Standards Committee on more than one occasion.

Interestingly enough, the building code already establishes that when a parking lot is altered it must comply with accessibility requirements. 3611.6 states that *facilities* that are altered must comply with Chapter 11 unless technically infeasible.

3411.6 Alterations. A *facility* that is altered shall comply with the applicable provisions in Chapter 11 of this code, unless *technically infeasible*. Where compliance with this section is *technically infeasible*, the *alteration* shall provide access to the maximum extent technically feasible...

Facilities are defined to include site improvements, which includes parking lots

FACILITY. All or any portion of buildings, structures, **site improvements**, elements and pedestrian or vehicular routes located on a *site*.

The propose change proposes even lower overall requirements for smaller parking facilities the previously submitted while recognizing the need to add accessible parking to facilities that do not have them. For parking lots in use groups that house places of public accommodation, the change establishes that **one van accessible space be provided when restriping and** what to do if full compliance causes violations of existing local parking space regulations.

This proposal also addresses facilities not under the control of the service provider of a place of public access and spaces at a home based business. In addition, lots with five or fewer spaces are exempt from this provision.

The proposed language does not address the accessible route which limits the cost exposure to the building owner beyond the parking space stripping and signage.

The issue of permitting and inspection, like many other provisions in this code, can be determined by the local building official. Section 108.2 would allow the building official to determine if a permit is needed since this is not a direct health and safety issue.

108.2 Exemption from Permit.

10.11. Other repair work deemed by the building official to be minor and ordinary which **does not adversely affect public health or general safety.**

Submittal Information

Date Submitted: February 20, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR TASO (Technical Assistance and Services Office)
The Jackson Center
501 N. 2nd Street
Richmond, VA 23219-1321

Email Address: taso@dhcd.virginia.gov
Fax Number: (804) 371-7092
Phone Numbers: (804) 371-7140 or (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: _____

Proponent Information

(Check one): Individual Government Entity Company

Names: John Catlett, MCP

Representing: VBCOA Admin Committee

Email Addresses: john.catlett@alexandriava.gov

Telephone Numbers: 703-746-4182

Proposal Information

Code(s) and Section(s): USBC, Virginia Construction Code Section 310.6 (IRC Section R311.2.1)

Proposed Change (including all relevant section numbers, if multiple sections):

Add new Section R311.2.1 to the International Residential Code to read as follows:

R311.2.1 Interior passage: When located on the main living level, doors and cased openings shall provide a minimum 34-inch clear opening or be sized to accommodate a 34-inch nominally sized door to the following areas. Intervening spaces to the required spaces shall also be provided with the same opening dimensions.

1. Kitchen
2. One bedroom.
3. One living room or other entertainment area
4. One full bathroom.

Exceptions:

1. 34-inch wide access is not required to any of the above spaces where the door or cased opening is located at the end of a hallway and the opening will not accommodate the required width due to the hallway width.
2. Closet and pantry doors

Supporting Statement (including intent, need, and impact of the proposal):

The VBCOA Administration Code Committee reviewed the two proposed changes regarding residential Interior Passage and came up with the proposed compromise language.

The two changes did not address intervening spaces or cased type openings that do not contain a door. One of the two changes suggested that a door must be provided. Terminology, such as "Jack and Jill" bathrooms where also utilized in the previous submittals.

This change brings together the best of both the proposed changes, deletes the terminology foreign to the building code, and provides better guidance should there be intervening spaces

As with the other two proposals, this proposal provides a minimum passage for certain areas on the main living level of new dwellings. The language is borrowed from the Easy Living criteria, but does not include all of the criteria in that standard.

Submittal Information

Date Submitted: August 13, 2013

→ email

Firestone, Janice (DHCD)

From: Redifer, Michael D. [mredifer@nngov.com]
Sent: Tuesday, August 13, 2013 2:43 PM
To: John Catlett; Clements, Ron; Hodge, Vernon (DHCD); Cathy Cook
Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD); Brian Foley; Brian Gordon; Briglia; david.cooper@fauquiercounty.gov; dbeahm@warrencountyva.net; Dean Simmons; Debra McMahon; Gary Greene; guy.tomberlin@fairfaxcounty.gov; Joel Baker; Joel Cagle; jwalsh@fredericksburgva.gov; lynn.underwood@norfolk.gov; Mark Bolt; Robert Allen; Rodgers, Emory (DHCD); sfrrell@pwcgov.org; wittr@chesterfield.gov; Woods
Subject: RE: Interior Passage

Here's another version for consideration. It's based on the principle of sometimes less is better. You all can decide if it's true in this case.

R311.2.1 Interior passage: When located on the main living level the following areas shall be accessible by openings having a minimum 34-inch clear opening width.

1. Kitchen
2. One bedroom.
3. One living room or other entertainment area
4. One full bathroom.

Exceptions:

1. 34 inch wide access is not required to any of the above spaces where the door or cased opening is located at the end of a hallway and the opening will not accommodate the required width due to the hallway width.
2. Closet and pantry doors

Certainly, without a definition of main living level, there can be challenges to the application of this rule. I prefer to keep accessibility/visitability optional with respect to individual dwellings under the IRC but realize it's better to keep these matters out of the legislative process whenever possible.

From: John Catlett [mailto:John.Catlett@alexandriava.gov]
Sent: Tuesday, August 13, 2013 12:20 PM
To: Clements, Ron; Hodge, Vernon (DHCD); Cathy Cook
Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD); Brian Foley; Brian Gordon; Briglia; david.cooper@fauquiercounty.gov; dbeahm@warrencountyva.net; Dean Simmons; Debra McMahon; Gary Greene; guy.tomberlin@fairfaxcounty.gov; Joel Baker; Joel Cagle; John Catlett; jwalsh@fredericksburgva.gov; lynn.underwood@norfolk.gov; Mark Bolt; Redifer, Michael D.; Robert Allen; Rodgers, Emory (DHCD); sfrrell@pwcgov.org; wittr@chesterfield.gov; Woods
Subject: RE: Interior Passage

Based on the feedback, here is the revised.

John Catlett, CPCA, MCP, CBO
Director
Alexandria Department of Code Administration
301 King Street, Room 4200
Alexandria, Virginia 22314
(703) 746-4200
www.alexandriava.gov/code

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“It’s about people, plain and simple”

Andrew John Hungerman III

From: Clements, Ron [<mailto:ClementsRo@chesterfield.gov>]
Sent: Tuesday, August 13, 2013 11:46 AM
To: Hodge, Vernon (DHCD); Cathy Cook; John Catlett
Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD)
Subject: RE: Interior Passage

R311.2.1 Interior passage: When doors or cased openings are used to access the following areas on the main living level cased openings shall have a minimum 34-inch clear opening width and doors shall be minimum 34-inch nominal width doors. **Intervening spaces to the required spaces shall also be provided with the same opening dimensions.**

1. Kitchen
2. One bedroom.
3. One living room or other entertainment area
4. One full bathroom.

Exceptions:

1. 34 inch wide access is not required to any of the above spaces where the door or cased opening is located at the end of a hallway and the opening will not accommodate the required width due to the hallway width.
2. Closet and pantry doors

How is this?

Ron Clements
Assistant Director
Chesterfield County, Virginia
Building Inspection Department
9800 Government Center Parkway, PO Box 40
Chesterfield, VA 23832-0040
Phone: (804) 751-4163

[Building Inspection Web site link](#)
[Permit status and inspection results link](#)

From: Hodge, Vernon (DHCD) [<mailto:Vernon.Hodge@dhcd.virginia.gov>]
Sent: Tuesday, August 13, 2013 11:39 AM
To: Cathy Cook; Clements, Ron; John Catlett
Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD)
Subject: RE: Interior Passage

Take a look at the HBAV change (attached) and see if the charging statement can be used. It is clearer to say “when provided.” Maybe the HBAV change could then be modified to bring in everything else on the VBCOA change.

Cathy – This would only be for new construction. The VCC alteration/addition rules would apply to remodeling or additions, just as for any new construction requirement.

Vernon

From: Cathy Cook [<mailto:CCook@blacksburg.gov>]
Sent: Tuesday, August 13, 2013 11:32 AM
To: 'Clements, Ron'; John Catlett; Hodge, Vernon (DHCD)
Subject: RE: Interior Passage

I'm a little confused, the exception does that apply to existing buildings undergoing remodeling or additions? If it is new construction they can design it for the required width?

Does that make sense, I am just coming off of vacation...

Catherine W. Cook, C.B.O.
Building Safety Official
Town of Blacksburg, Va.
VBCOA First Vice President
t 540-558-0711
f 540-951-0672
ccook@blacksburg.gov

From: Clements, Ron [<mailto:ClementsRo@chesterfield.gov>]
Sent: Tuesday, August 13, 2013 11:21 AM
To: John Catlett; Hodge, Vernon (DHCD)
Cc: Cindy Davis DHCD; Rodgers, Emory (DHCD); Brian Foley; Brian Gordon; Briglia; Cathy Cook; david.cooper@fauquiercounty.gov; dbeahm@warrencountyva.net; Dean Simmons; Debra McMahon; Gary Greene; guy.tomberlin@fairfaxcounty.gov; Joel Baker; Joel Cagle; jwalsh@fredericksburgva.gov; lynn.underwood@norfolk.gov; Mark Bolt; mredifer@nngov.com; Robert Allen; sfrrell@pwccgov.org; Witt, Rick; Woods
Subject: RE: Interior Passage

R311.2.1 Interior passage: When located on the main living level the following areas shall be accessible by cased openings with a minimum 34-inch clear opening width or 34-inch nominally sized doors. Intervening spaces to the required spaces shall also be provided with the same opening dimensions.

1. Kitchen
2. One bedroom.
3. One living room or other entertainment area
4. One full bathroom.

Exceptions:

1. 34 inch wide access is not required to any of the above spaces where the door or cased opening is located at the end of a hallway and the opening will not accommodate the required width due to the hallway width.
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I tried to clean up your clean up. I did not take it out but I think the highlighted text can be removed with the revision I made to the first sentence. I think the first sentence covers the concept. I also did a little work on the first exception.

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Phone: (804) 751-4163

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From: John Catlett [<mailto:John.Catlett@alexandriava.gov>]

Sent: Tuesday, August 13, 2013 10:53 AM

To: Hodge, Vernon (DHCD)

Cc: Cindy Davis DHCD; Rodgers, Emory (DHCD); Brian Foley; Brian Gordon; Briglia; ccook@blacksburg.gov; Clements, Ron; david.cooper@fauquiercounty.gov; dbeahm@warrencountyva.net; Dean Simmons; Debra McMahon; Gary Greene; guy.tomberlin@fairfaxcounty.gov; Joel Baker; Joel Cagle; John Catlett; jwalsh@fredericksburgva.gov; lynn.underwood@norfolk.gov; Mark Bolt; mredifer@nngov.com; Robert Allen; sfrrell@pwcgov.org; Witt, Rick; Woods

Subject: Interior Passage

Hope this one pulls the two together and cleans up the intent...

John Catlett, CPCA, MCP, CBO

Director

Alexandria Department of Code Administration

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Alexandria, Virginia 22314

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www.alexandriava.gov/code

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Andrew John Hungerman III

From: Hodge, Vernon (DHCD) [<mailto:Vernon.Hodge@dhcd.virginia.gov>]

Sent: Tuesday, August 13, 2013 9:20 AM

To: John Catlett

Subject: RE: Word versions of two changes.

Attached.

Vernon

From: John Catlett [<mailto:John.Catlett@alexandriava.gov>]

Sent: Monday, August 12, 2013 5:14 PM

To: Hodge, Vernon (DHCD); Davis, Cindy (DHCD); Rodgers, Emory (DHCD)

Subject: Word versions of two changes.

Can you send me the Word version of the HBAV /Ken accessible residential interior route and the generator Amusement Device changes?

John Catlett, CPCA, MCP, CBO
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From: John Catlett
Sent: Monday, August 12, 2013 5:10 PM
To: Vernon Hodge (Vernon.hodge@dhcd.virginia.gov); Cindy Davis DHCD; Rodgers, Emory (DHCD)
Subject: RE: Code change regarding restriping

John Catlett, CPCA, MCP, CBO
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From: John Catlett
Sent: Monday, August 12, 2013 4:30 PM
To: Vernon Hodge (Vernon.hodge@dhcd.virginia.gov); Cindy Davis DHCD; Rodgers, Emory (DHCD)
Subject: RE: Code change regarding restriping

All others will follow shortly...

John Catlett, CPCA, MCP, CBO
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From: John Catlett
Sent: Monday, August 12, 2013 3:03 PM
To: Vernon Hodge (Vernon.hodge@dhcd.virginia.gov); Cindy Davis DHCD; Rodgers, Emory (DHCD)
Subject: Ciode Change Perking our pat.

John Catlett, CPCA, MCP, CBO
Director
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email 2

Firestone, Janice (DHCD)

From: Clements, Ron [ClementsRo@chesterfield.gov]
Sent: Tuesday, August 13, 2013 1:25 PM
To: Hodge, Vernon (DHCD); Cathy Cook; John Catlett
Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD)
Subject: RE: Interior Passage

That works.

Ron Clements
Assistant Director
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Phone: (804) 751-4163

[Building Inspection Web site link](#)
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From: Hodge, Vernon (DHCD) [mailto:Vernon.Hodge@dhcd.virginia.gov]
Sent: Tuesday, August 13, 2013 12:26 PM
To: Clements, Ron; Cathy Cook; John Catlett
Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD)
Subject: RE: Interior Passage

I see that John's already picked up on this discussion and submitted the proposal, so that's fine. I tried to use a little better wording below, if anyone wants to use it. Plus I don't think the original intent was to require the rooms. It was just to require the openings if the rooms are there.

R311.2.1 Interior passage. Openings into at least one kitchen, bedroom, bathroom and living room or other similar room for entertainment on the main living level, if such rooms are provided, shall have a minimum 34-inch clear opening width if no doors are provided, or a minimum 34-inch nominal width door if doors are provided. Intervening spaces to such rooms shall also be provided with these minimum clearances.

Exceptions:

1. Openings to rooms at the end of a hallway where the opening width cannot be achieved without widening the hallway.
2. Closet and pantry doors.

Vernon

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Sent: Tuesday, August 13, 2013 11:46 AM
To: Hodge, Vernon (DHCD); Cathy Cook; John Catlett
Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD)
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From: Clements, Ron [<mailto:ClementsRo@chesterfield.gov>]
Sent: Tuesday, August 13, 2013 11:21 AM

To: John Catlett; Hodge, Vernon (DHCD)
Cc: Cindy Davis DHCD; Rodgers, Emory (DHCD); Brian Foley; Brian Gordon; Briglia; Cathy Cook; david.cooper@fauquiercounty.gov; dbeahm@warrencountyva.net; Dean Simmons; Debra McMahon; Gary Greene; guy.tomberlin@fairfaxcounty.gov; Joel Baker; Joel Cagle; jwalsh@fredericksburgva.gov; lynn.underwood@norfolk.gov; Mark Bolt; mredifer@nngov.com; Robert Allen; sfrrell@pwcgov.org; Witt, Rick; Woods
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Sent: Tuesday, August 13, 2013 9:20 AM

To: John Catlett

Subject: RE: Word versions of two changes.

Attached.

Vernon

From: John Catlett [<mailto:John.Catlett@alexandriava.gov>]

Sent: Monday, August 12, 2013 5:14 PM

To: Hodge, Vernon (DHCD); Davis, Cindy (DHCD); Rodgers, Emory (DHCD)

Subject: Word versions of two changes.

Can you send me the Word version of the HBAV /Ken accessible residential interior route and the generator Amusement Device changes?

John Catlett, CPCA, MCP, CBO

Director

Alexandria Department of Code Administration

301 King Street, Room 4200

Alexandria, Virginia 22314

(703) 746-4200

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From: John Catlett
Sent: Monday, August 12, 2013 5:10 PM
To: Vernon Hodge (Vernon.hodge@dhcd.virginia.gov); Cindy Davis DHCD; Rodgers, Emory (DHCD)
Subject: RE: Code change regarding restriping

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Subject: RE: Code change regarding restriping

All others will follow shortly...

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From: John Catlett
Sent: Monday, August 12, 2013 3:03 PM
To: Vernon Hodge (Vernon.hodge@dhcd.virginia.gov); Cindy Davis DHCD; Rodgers, Emory (DHCD)
Subject: Clode Change Perking our pat.

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Andrew John Hungerman III

2 mail 3

Firestone, Janice (DHCD)

From: Tomberlin, Guy [Guy.Tomberlin@fairfaxcounty.gov]
Sent: Tuesday, August 13, 2013 1:48 PM
To: 'John Catlett'; 'Clements, Ron'; Hodge, Vernon (DHCD); 'Cathy Cook'
Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD); Foley, Brian; 'Brian Gordon'; 'Briglia'; 'david.cooper@fauquiercounty.gov'; 'dbeahm@warrencountyva.net'; 'Dean Simmons'; 'McMahon, Debra K.'; 'Gary Greene'; 'Joel Baker'; 'Joel Cagle'; 'jwalsh@fredericksburgva.gov'; 'lynn.underwood@norfolk.gov'; 'Mark Bolt'; 'mredifer@nngov.com'; 'Robert Allen'; Rodgers, Emory (DHCD); 'sfrrell@pwcgov.org'; 'wittr@chesterfield.gov'; 'Woods'
Subject: RE: Interior Passage

As I indicated Friday I do not necessarily agree with this proposal without adding a definition of "main living level." (Couldn't that be an unfinished basement or attic not associated with the construction of a home at the time of plan review or inspection?) Also, this proposal actually encourages a narrower hallway by using the incentive of smaller door openings; if that's really the way someone wanted to build. For the record, I do not disagree with the intent. I just see loop hole after loop hole with a large potential for non-uniform application in that this is not an easy message to convey with a "one size fits all" approach. I did make some suggested edits if the group is moving forward with the change in our name, more for clarity and traditional code formatting not technical aspects.

Lastly, it would be worth contacting the original proponent and see if they would like to submit this language themselves or perhaps as co-sponsors.

R311.2.1 Interior passage: Doors and cased openings located on the main living level, shall provide a minimum 34-inch clear opening or be sized to accommodate a 34-inch nominally sized door to the following areas. Doors and cased openings located along the path of travel to such spaces shall also be provided with the same opening dimensions.

1. Kitchen
2. One bedroom.
3. One living room or other entertainment area
4. One full bathroom.

Exceptions:

1. 34-inch wide access is not required to any of the above spaces where the door or cased opening is located at the end of a hallway and the opening will not accommodate the required width due to the hallway width.
2. Closet and pantry doors

Guy Tomberlin
Building Code Services Manager
Fairfax County Land Development Services
12055 Government Center Parkway, Suite 216
Fairfax, VA 22035
703-324-1611

From: John Catlett [mailto:John.Catlett@alexandriava.gov]
Sent: Tuesday, August 13, 2013 12:20 PM
To: Clements, Ron; Hodge, Vernon (DHCD); Cathy Cook
Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD); Foley, Brian; Brian Gordon; Briglia; david.cooper@fauquiercounty.gov; dbeahm@warrencountyva.net; Dean Simmons; McMahon, Debra K.; Gary Greene; Tomberlin, Guy; Joel Baker; Joel Cagle; John Catlett; jwalsh@fredericksburgva.gov; lynn.underwood@norfolk.gov; Mark Bolt; mredifer@nngov.com;

Robert Allen; Rodgers, Emory (DHCD); sfrrell@pwcgov.org; wittr@chesterfield.gov; Woods

Subject: RE: Interior Passage

Based on the feedback, here is the revised.

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Andrew John Hungerman III

From: Clements, Ron [<mailto:ClementsRo@chesterfield.gov>]

Sent: Tuesday, August 13, 2013 11:46 AM

To: Hodge, Vernon (DHCD); Cathy Cook; John Catlett

Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD)

Subject: RE: Interior Passage

R311.2.1 Interior passage: When doors or cased openings are used to access the following areas on the main living level cased openings shall have a minimum 34-inch clear opening width and doors shall be minimum 34-inch nominal width doors. **Intervening spaces to the required spaces shall also be provided with the same opening dimensions.**

1. Kitchen
2. One bedroom.
3. One living room or other entertainment area
4. One full bathroom.

Exceptions:

1. 34 inch wide access is not required to any of the above spaces where the door or cased opening is located at the end of a hallway and the opening will not accommodate the required width due to the hallway width.
2. Closet and pantry doors

How is this?

Ron Clements
Assistant Director

Chesterfield County, Virginia
Building Inspection Department
9800 Government Center Parkway, PO Box 40
Chesterfield, VA 23832-0040
Phone: (804) 751-4163
[Building Inspection Web site link](#)
[Permit status and inspection results link](#)

From: Hodge, Vernon (DHCD) [<mailto:Vernon.Hodge@dhcd.virginia.gov>]
Sent: Tuesday, August 13, 2013 11:39 AM
To: Cathy Cook; Clements, Ron; John Catlett
Cc: Davis, Cindy (DHCD); Potts, Richard (DHCD)
Subject: RE: Interior Passage

Take a look at the HBAV change (attached) and see if the charging statement can be used. It is clearer to say "when provided." Maybe the HBAV change could then be modified to bring in everything else on the VBCOA change.

Cathy – This would only be for new construction. The VCC alteration/addition rules would apply to remodeling or additions, just as for any new construction requirement.

Vernon

From: Cathy Cook [<mailto:CCook@blacksburg.gov>]
Sent: Tuesday, August 13, 2013 11:32 AM
To: 'Clements, Ron'; John Catlett; Hodge, Vernon (DHCD)
Subject: RE: Interior Passage

I'm a little confused, the exception does that apply to existing buildings undergoing remodeling or additions? If it is new construction they can design it for the required width?

Does that make sense, I am just coming off of vacation...

Catherine W. Cook, C.B.O.
Building Safety Official
Town of Blacksburg, Va.
VBCOA First Vice President
t 540-558-0711
f 540-951-0672
ccook@blacksburg.gov

From: Clements, Ron [<mailto:ClementsRo@chesterfield.gov>]
Sent: Tuesday, August 13, 2013 11:21 AM
To: John Catlett; Hodge, Vernon (DHCD)
Cc: Cindy Davis DHCD; Rodgers, Emory (DHCD); Brian Foley; Brian Gordon; Briglia; Cathy Cook; david.cooper@fauquiercounty.gov; dbeahm@warrencountyva.net; Dean Simmons; Debra McMahon; Gary Greene; guy.tomberlin@fairfaxcounty.gov; Joel Baker; Joel Cagle; jwalsh@fredericksburgva.gov; lynn.underwood@norfolk.gov; Mark Bolt; mredifer@nngov.com; Robert Allen; sfrrell@pwcgov.org; Witt, Rick; Woods
Subject: RE: Interior Passage

R311.2.1 Interior passage: When located on the main living level the following areas shall be accessible by cased openings with a minimum 34-inch clear opening width or 34-inch nominally sized doors. **Intervening spaces to the required spaces shall also be provided with the same opening dimensions.**

1. Kitchen
2. One bedroom.

3. One living room or other entertainment area
4. One full bathroom.

Exceptions:

1. 34 inch wide access is not required to any of the above spaces where the door or cased opening is located at the end of a hallway and the opening will not accommodate the required width due to the hallway width.
2. Closet and pantry doors

I tried to clean up your clean up. I did not take it out but I think the highlighted text can be removed with the revision I made to the first sentence. I think the first sentence covers the concept. I also did a little work on the first exception.

Ron Clements
Assistant Director
Chesterfield County, Virginia
Building Inspection Department
9800 Government Center Parkway, PO Box 40
Chesterfield, VA 23832-0040
Phone: (804) 751-4163
[Building Inspection Web site link](#)
[Permit status and inspection results link](#)

From: John Catlett [<mailto:John.Catlett@alexandriava.gov>]

Sent: Tuesday, August 13, 2013 10:53 AM

To: Hodge, Vernon (DHCD)

Cc: Cindy Davis DHCD; Rodgers, Emory (DHCD); Brian Foley; Brian Gordon; Briglia; ccook@blacksburg.gov; Clements, Ron; david.cooper@fauquiercounty.gov; dbeahm@warrencountyva.net; Dean Simmons; Debra McMahon; Gary Greene; guy.tomberlin@fairfaxcounty.gov; Joel Baker; Joel Cagle; John Catlett; jwalsh@fredericksburgva.gov;

lynn.underwood@norfolk.gov; Mark Bolt; mredifer@nngov.com; Robert Allen; sfrrell@pwcgov.org; Witt, Rick; Woods

Subject: Interior Passage

Hope this one pulls the two together and cleans up the intent...

John Catlett, CPCA, MCP, CBO
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Andrew John Hungerman III

From: Hodge, Vernon (DHCD) [<mailto:Vernon.Hodge@dhcd.virginia.gov>]
Sent: Tuesday, August 13, 2013 9:20 AM
To: John Catlett
Subject: RE: Word versions of two changes.

Attached.

Vernon

From: John Catlett [<mailto:John.Catlett@alexandriava.gov>]
Sent: Monday, August 12, 2013 5:14 PM
To: Hodge, Vernon (DHCD); Davis, Cindy (DHCD); Rodgers, Emory (DHCD)
Subject: Word versions of two changes.

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Subject: RE: Code change regarding restriping

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Subject: RE: Code change regarding restriping

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VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: _____

Proponent Information

(Check one): Individual Government Entity Company

Name: John Catlett.

Representing: VBCOA Admin Committee

Proposal Information

Code(s) and Section(s): VCC and VADR

Proposed Change (including all relevant section numbers, if multiple sections):

Add new Section 107.1.3 to the VCC to read:

107.1.3 Fees for generators used with amusement devices. Fees for generators and associated wiring used with amusement devices shall be only charged under the Virginia Amusement Device Regulations (13VAC5-31).

Change Section 13VAC5-31-75 of the VADR to read:

13VAC5-31-75. Local building department.

A. In accordance with §§ 36-98.3 and 36-105 of the Code of Virginia, the local building department shall be responsible for the enforcement of this chapter and may charge fees for such enforcement activity. The total amount charged for any one permit to operate an amusement device or devices or the renewal of such permit shall not exceed the following, except that when a private inspector is used, the fees shall be reduced by 50%:

1. \$25 for each kiddie ride covered by the permit;
2. \$35 for each circular ride or flat-ride less than 20 feet in height covered by the permit;
3. \$55 for each spectacular ride covered by the permit that cannot be inspected as a circular ride or flat-ride in subdivision 2 of this subsection due to complexity or height; and
4. \$150 for each coaster covered by the permit that exceeds 30 feet in height.

5. The local building department may charge an additional fee for permits and inspections of generators and associated wiring for amusement device events for generators 6500 watt or larger. Generators subject to these fees are those used exclusively with amusement devices subject to this code and are inspected by the local building department. The fee charged by the local governing body per event set up for the inspection of all generators and associated electrical components shall not exceed \$165.00 per event and shall not exceed the actual cost to perform the inspection(s).

Supporting Statement (including intent, need, and cost impact of the proposal):

The VBCOA Admin Committee viewed the two proposals and offers the above compromise language to address the need to cover generator and electrical installations associated with amusement device events.

The original Supporting Statement from the proponents of the other two code submittals still remains valid.

This proposal addresses the concern of operators of amusement devices that some local building departments are requiring electrical permits under the VCC for generators used with amusement devices and are using the fee schedule established by the local government for electrical permits to charge separate fees for such permits. This proposal only addresses the fee aspect of this situation and clarifies that fees may not be charged under the VCC for any electrical

permits issued by the local building department for generators and associated wiring used with amusement devices. The proposal does however establish a new fee under the VADR for inspecting such generators when the local building department does the inspection.

Submittal Information

Date Submitted: August 13, 2013

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)
600 East Main Street
Suite 300
Richmond, VA 23219

Email Address: Vernon.hodge@dhcd.virginia.gov
Fax Number: (804) 371-7092
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: _____

Proponent Information (Check one): Individual Government Entity Organization

Name: J. Kenneth Payne, Jr., AIA Representing: VSAIA

Mailing Address: 3200 Norfolk Street, Richmond, VA 23230

Email Address: kpayne@moseleyarchitects.com Telephone Number: 804.794.7555

Proposal Information

Code(s) and Section(s): 2012 IBC, Section 202, Section 408.2.1, new Section 427, 903.2.6, and 907.2.6.3
(OPTION #3-REVISED)

Proposed Change (including all relevant section numbers, if multiple sections):

Add new definition in Section 202 as follows:

SHORT-TERM HOLDING AREA. An area containing holding cells or holding rooms, and associated rooms or spaces, where the occupants are restrained or detained by the use of security measures not under the occupant's control for less than 24 hours.

Add new subsection 408.2.1 as follows:

408.2.1 Short-term holding areas. For short-term holding areas, refer to Section 427.

Add new Section 427 as follows:

SECTION 427
SHORT-TERM HOLDING AREAS

427.1 Applicability. The provisions of Sections 427.1 through 427.3 shall be permitted to apply to all parts of buildings and structures that contain a *short-term holding area*. Short-term holding areas are not permitted in educational occupancies.

427.2 Classification. Short-term holding areas shall be permitted to be classified as the main occupancy, provided all of the following are met:

1. Aggregate area of short-term holding areas shall not occupy more than 10 percent of the building area of the story in which they are located and shall not exceed the tabular value for building area in Table 503, without building area increases.
2. Detainee occupant load of each *short-term holding area* shall not exceed 20.
3. Aggregate detainee occupant load in short-term holding areas per building shall not exceed 80.
4. Compliance with the following:
 - a. Section 408.3.7.
 - b. Section 408.3.8.
 - c. Section 408.4.
 - d. Section 408.7.

5. Requirements of the main occupancy in which the *short-term holding area* is located shall be met.
6. Building or structure in which the *short-term holding area* is located shall be provided throughout with a *fire alarm system* in accordance with Section 907.2.6.3.
7. Building or structure in which the *short-term holding area* is located shall be fully sprinklered in accordance with Section 903.2.6.

427.3 Separation. Each *short-term holding area* shall be separated from each other and adjacent spaces by smoke partitions in accordance with Section 710.

Revise Section 903.2.6 as follows:

[F] 903.2.6 Group I and Short-term Holding Areas. An *automatic sprinkler system* shall be provided throughout buildings with a Group I *or short-term holding area fire area*.

Revise Section 907.2.6.3 as follows:

[F] 907.2.6.3 Group I-3 occupancies and Short-term Holding Areas. Group I-3 occupancies and short-term holding areas shall be equipped with a manual fire alarm system and automatic smoke detection system installed for alerting staff.

[F] 907.2.6.3.3 Automatic smoke detection system. An automatic smoke detection system shall be installed throughout *short-term holding areas* and resident housing areas, including *sleeping units* and contiguous day rooms, group activity spaces and other common spaces normally accessible to residents.

Supporting Statement (including intent, need, and impact of the proposal):

May need to make equivalent changes to SFPC.

It is important to note these holding areas:

- Are temporary/short term
- Are limited to no more than 10% of the area within a story
- Cannot exceed tabular areas, without increases
- Are allowed only when the entire building is fully sprinklered with an NFPA 13 system only
- Are allowed only when the entire building is provided throughout with a fire alarm system as required for I-3 occupancies
- Are allowed only when there is an automatic smoke detection system installed for alerting staff, as required for I-3 occupancies
- Are separated from other areas with smoke partitions
- Must still comply with various I-3 requirements:
 - Means of egress
 - Sallyports
 - Exit stairway and ramp construction
 - Locking arrangements, including redundant operations
 - Security glazing

The goal is to allow *short-term* holding (lockup) areas, without applying I-3 provisions to the entire building (including, height limitations and smoke control system). This code change would address those situations where you have short-term holding areas located within occupancies such as: courthouses, police stations, security offices (arenas, stadiums, airports, shopping mall, etc.), customs facilities, immigration facilities, drunk-tanks, and similar types of facilities, where the detainees are there for a limited time, do not inhabit the holding area, and the occupant load and aggregate area is limited.

I-3 is defined, in part, as buildings "that are *inhabited*" which must then be further defined as one of 5 conditions – where each condition refers to *sleeping* areas. Thus, it appears areas where detainees do not sleep or are held for a limited time do not meet the definition of an I-3 occupancy. However, I-3 is the closest occupancy classification (occupants under restraint or security and are generally incapable of self-preservation) and is almost always applied to such short-term holding cell / lockup areas – which creates ambiguities, including Section 408.2 (Other occupancies), and onerous requirements for the rest of the occupancies within the main building.

Section 408.2 has been interpreted and enforced differently by building officials throughout Virginia, and by locating short-term holding areas in its own "special detailed requirements" Section 427 – its potential to be classified as an I-3 occupancy is avoided and consistency should result.

This code change proposal includes some portions of two code change proposals (G33-12 and G37-12) that were "Disapproved" by the General Code Committee at the 2012 ICC Code Development Hearing in Dallas. Some of the reasons for disapproval of G33-12 and/or G37-12 included the following:

1. Confusion with psychiatric, neonatal, and dementia wards.
2. Occupant load of 50 seems too high and inconsistent with other IBC criteria and further coordination with I-3 occupant loads should be made.
3. No limitations on how many lockup facilities could be located within a building (could be used to replace I-3 occupancies).
4. Built-in systems were preferred over contacting the fire department.
5. Concerned with use of terms "trained and practiced."
6. Smoke barriers may make observation difficult.
7. Sprinklers were not required throughout the building, and only within the lockup facility.
8. A time limit needs to be placed upon the use of such facilities.

This code change proposal attempts to address the above reasons/concerns as follows (numbers correspond to above):

1. The new term *short-term holding area* would have its own definition and the requirements would be located under a new section, thus avoiding any potential for confusion with other I-related occupancies and/or requirements except those specifically identified.
2. The proposed occupant load of 20 is a compromise between 10 (identified in Tables 1015.1 and 1021.2(2)) which would be too low; and 50 which was deemed by the General Code Committee to be too high.
3. Limitations are established by the following:
 - a. Limited to 10% of the building area per story.
 - b. Detainee occupant loads would be limited to 80 per *building*.
4. Short-term holding areas would still be required to meet *selected* requirements of I-3, including alarm and detection systems (907.2.6.3), means of egress, glazing, locking, and a sprinkler system throughout entire building.
5. The terms "trained and practiced" are not used in this code change proposal.
6. Smoke *barriers* are not included in this code change proposal; however, smoke *partitions* would be required.
7. An NFPA-13 sprinkler system would be required throughout the building or structure.
8. No detainee shall occupy a short-term holding area for longer than 24 hours (the use of a 24-hour limitation is used elsewhere in the IBC).

NFPA 5000 recognizes the need for such an approach, and includes provisions for such "lockup" areas.

To avoid potential issues with the Virginia Department of Corrections and their requirement to certify "lockups," the term "lockups" is not used in this code change proposal.

Construction costs should be reduced (no smoke control system, no need for Type I or IIA construction if short-term holding areas are on a 3rd floor or higher, and no need to fire-rate the enclosing and supporting construction) - compared to if I-3 requirements were applied to these holding areas and/or the rest of the building in which short-term holding areas are located.

Date Submitted: ~~January 9, 2013~~ ~~February 22, 2013~~ ~~March 5, 2013~~ ~~April 1, 2013~~ August 12, 2013



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: _____

Proponent Information (Check one): Individual Government Entity Organization

Name: J. Kenneth Payne, Jr., AIA

Representing: VSAIA

Mailing Address: 3200 Norfolk Street, Richmond, VA 23230

Email Address: kpayne@moseleyarchitects.com

Telephone Number: 804.794.7555

Proposal Information

Code(s) and Section(s): **2012 IBC, Section 2603.5.5 – OPTION #1 – REVISED (supporting statement only)**

Proposed Change (including all relevant section numbers, if multiple sections):

2603.5.5 Vertical and lateral fire propagation. The exterior wall assembly shall be tested in accordance with and comply with acceptance criteria of NFPA 285. Where there are multiple exterior wall assemblies per building or structure, and where noncombustible materials, or combustible materials allowed per Sections 603, 803, 806, or 1406, vary from or within one exterior wall assembly to another assembly, additional NFPA 285 tests are not required.

Exceptions: ~~One-story buildings complying with Section 2603.4.1.4.~~

1. One-story buildings complying with Section 2603.4.1.4.
2. Wall assemblies where the foam plastic insulation is covered on each face by a minimum of 1-inch (25 mm) thickness of masonry or concrete and meeting one of the following:
 - a. there is no air space between the insulation and the concrete or masonry; or
 - b. the insulation has a flame spread index of not more than 25 as determined in accordance with ASTM E 84 or UL 723 and the maximum air space between the insulation and the concrete or masonry is not more than 1 inch (25 mm).
3. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

Supporting Statement (including intent, need, and impact of the proposal):

All other applicable requirements of Section 2603.5 for foam plastic insulation would still be in effect, including thermal barriers, heat limitations, flame spread and smoke-developed indexes, labels, and/or ignition criteria.

Regarding Exception #1:

This is already allowed by previous IBC editions.

Regarding Exception #2:

It is our understanding that Exception #2 is the same language that was approved during the ICC final action hearings for the 2015 IBC.

Regarding Exception #3:

NFPA 285 A1.1.2 states, "NFPA 285 addresses fire exposures from **interior** fires that reach flashover, break exterior windows, and expose the building façade. It is not intended to address fire exposures that originate from the building's exterior." Per the criteria of the test, the exterior burner (representing flashover) is turned on 5 minutes into the test.

- Therefore, an NFPA 13 sprinkler system should be capable of extinguishing a fire prior to potential flashover.

Regarding 2603.5.5:

Because the NFPA 285 test is for an "assembly" and not just components or materials, a test would need to be performed every time a single component/material changes within an exterior wall assembly (e.g., veneers, insulation, WRB, air barriers, structure, sheathing, interior finishes, location, and/or thicknesses of all those materials listed).

NFPA 285 1.1.1 - Scope states, "This standard provides a test method for determining the fire propagation characteristics of exterior non-load-bearing wall assemblies and panels used as components of curtain wall assemblies, **constructed using combustible materials or that incorporate combustible components**, that are intended to be installed on buildings required to have exterior walls of noncombustible construction."

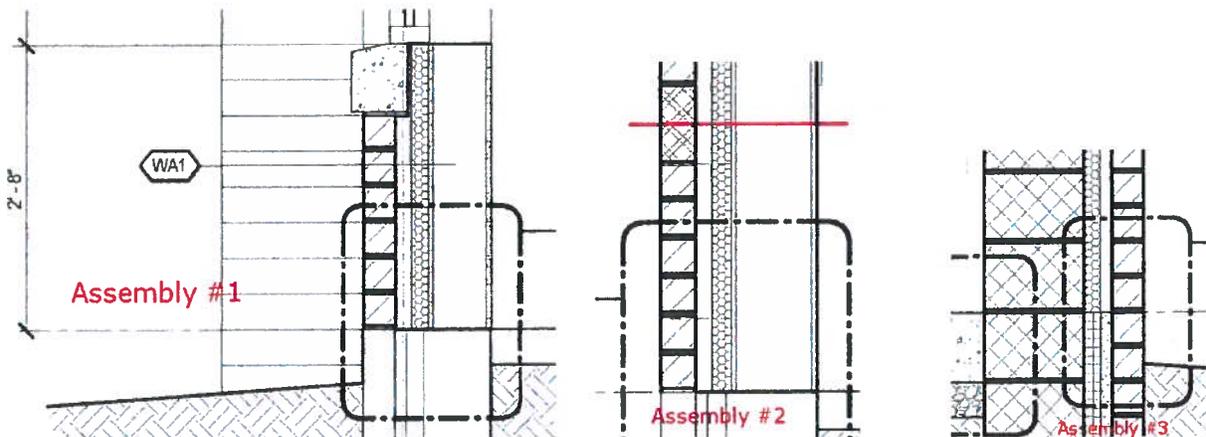
- Therefore, requiring multiple tests because noncombustible materials are changed or varied within an assembly appears to run contrary to the purpose and scope of the test. In photos of tests with noncombustible materials, they remove the noncombustible materials so they can determine the scope of propagation of the *combustible* component(s).



Figure 2. Post-test condition of an exterior wall assembly.

- The IBC currently allows a multitude of combustible materials within noncombustible construction. If one of those "exempted" materials changed from or within one exterior wall assembly to another, it should not be grounds to require another NFPA 285 test.
- The 2012 Code Commentary says, "***The intent is to regulate the use of an insulating envelope over the exterior of a structure when the envelope provides no structural support other than the transfer of wind loads. It is recognized that some envelopes will be constructed in place by installing a rigid foam plastic and covering it with an exterior finish while others will be installed as prefabricated panels complete with exterior finish.***"
 - It would appear the emphasis is not on the "structural" component of the exterior wall (e.g., CMU or steel stud framing) or an exterior finish (e.g., facebrick or, precast), especially if those materials were noncombustible. Therefore, if one of those materials changed from or within one exterior wall assembly to another, it should not be grounds to require another NFPA 285 test.

- The proposed code change includes text addressing the above. In other words, if a building has two assemblies, and the only difference is that one has CMU backup and the other has gypsum sheathing + steel studs + gypsum drywall backup (all are noncombustible materials), a second NFPA 285 test would not be required. Or, if the only difference was one assembly had facebrick and the other had split-face CMU as the veneer, a second NFPA 285 test would not be required.
- Refer to the examples below: Assembly #1 would require a test. The accent band of split-face CMU in Assembly #2 would require a second NFPA 285 test, and the change from steel studs/gypsum to CMU in Assembly #3 would require a third NFPA 285 test.



An apparent disconnect appears to exist where the IBC requires all exterior walls of any height (except Type V construction) to be tested in accordance with NFPA 28; however, the scope and purpose of NFPA 285 is for “exterior **non-load-bearing** wall assemblies and **panels used as components of curtain wall assemblies.**” Therefore, it appears NFPA 285 was not intended to test all walls – only non-load-bearing walls and panels used as components of curtain wall assemblies.

To the best of our knowledge and belief, there is no empirical data in the United States proving loss of life and/or property was the result of foam plastic insulation *in or on* exterior walls in a fully sprinklered building (when operational), or a building whose exterior covering was noncombustible - where the fire originated in the interior of the building.

Refer to the attached document for information on the 2006 and 2012 NFPA 285 test criteria.

Cost Impact:

The proposed code change could reduce the cost of construction approximately \$25,000 - \$35,000 (or more) per exterior wall assembly when compared to the current 2012 code requirements. There are at least two or more different exterior wall assemblies per building; thus, equaling approximately \$50-70,000 or more of potential cost savings per building. Increased savings would be realized the more assemblies there are per building.

Some have suggested Engineering Judgments (which still costs approximately \$3,500 - \$5,000 per exterior wall assembly, per judgment) and/or ICC Evaluation Reports could be submitted in lieu of the NFPA 285 assembly tests. However, the IBC makes no mention of these as an alternative approach, and would be subject to the discretion of each LAHJ (we assume as a code modification request?). This could result in inconsistent enforcement.

Submittal Information

Date Submitted: May 17, 2013 August 8, 2013

VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: _____

Proponent Information (Check one): Individual Government Entity Organization

Name: J. Kenneth Payne, Jr., AIA

Representing: VSAIA

Mailing Address: 3200 Norfolk Street, Richmond, VA 23230

Email Address: kpayne@moseleyarchitects.com

Telephone Number: 804.794.7555

Proposal Information

Code(s) and Section(s): **2012 IBC, Section 2603.5.5 – OPTION #3 – REVISED (supporting statement only)**

Proposed Change (including all relevant section numbers, if multiple sections):

2603.5.5 Vertical and lateral fire propagation. The exterior wall assembly of high-rise buildings shall be tested in accordance with and comply with acceptance criteria of NFPA 285. Where there are multiple exterior wall assemblies per building or structure, and where noncombustible materials, or combustible materials allowed per Sections 603, 803, 806, or 1406, vary from or within one exterior wall assembly to another assembly, additional NFPA 285 tests are not required.

Exception: One-story buildings complying with Section 2603.4.1.4.

Supporting Statement (including intent, need, and impact of the proposal):

Difference from Option #1:

- The NFPA 285 test would be required for all exterior wall assemblies for high rise buildings only (making the one story exception unnecessary).

All other applicable requirements of Section 2603.5 for foam plastic insulation would still be in effect, including thermal barriers, heat limitations, flame spread and smoke-developed indexes, labels, and/or ignition criteria.

As currently written, 2-story and other "low-rise" buildings would require NFPA 285 testing of their assemblies. High-rise buildings (75 feet) generally capture five (5) stories or higher. The IBC currently exempts 1-story buildings, so this code change would basically permit 2-4 story buildings to be exempt from NFPA 285 testing on their exterior wall assemblies. This code change is similar to other areas within the IBC that recognize "low-rise" buildings can pose reduced risks:

- 2012 IBC 1403.5 allows combustible WRBs up to 40 feet
- 2012 IBC 1407.11.1 and 1407.11.2 allow MCM up to 40 feet or 55 feet, and up to 75 feet under certain conditions
- 2012 IBC 1406.2.1.2 allows combustible exterior wall coverings up to 40 feet
- 2012 IBC 1406.2.1.3 allows combustible exterior wall coverings up to 60 feet, under certain conditions

This proposed code change still retains the requirement to test per NFPA 285 on all exterior wall assemblies of a high-rise building, without exceptions.

NFPA 285 A1.1.2 states, "NFPA 285 addresses fire exposures from **interior** fires that reach flashover, break exterior windows, and expose the building façade. It is not intended to address fire exposures that originate from the building's exterior." Per the criteria of the test, the exterior burner (representing flashover) is turned on 5 minutes into the test.

- Since all high rise buildings must be sprinkled, an NFPA 13 sprinkler system should be capable of extinguishing a fire prior to potential flashover which per the performance criteria of NFPA 285 would occur *after* 5 minutes (the external burner is not turned on until after the internal burner has been on for 5 minutes).

Regarding 2603.5.5:

Because the NFPA 285 test is for an "assembly" and not just components or materials, a test would need to be performed every time a single component/material changes within an exterior wall assembly (e.g., veneers, insulation, WRB, air barriers, structure, sheathing, interior finishes, location, and/or thicknesses of all those materials listed).

NFPA 285 1.1.1 - Scope states, "This standard provides a test method for determining the fire propagation characteristics of exterior non-load-bearing wall assemblies and panels used as components of curtain wall assemblies, **constructed using combustible materials or that incorporate combustible components**, that are intended to be installed on buildings required to have exterior walls of noncombustible construction."

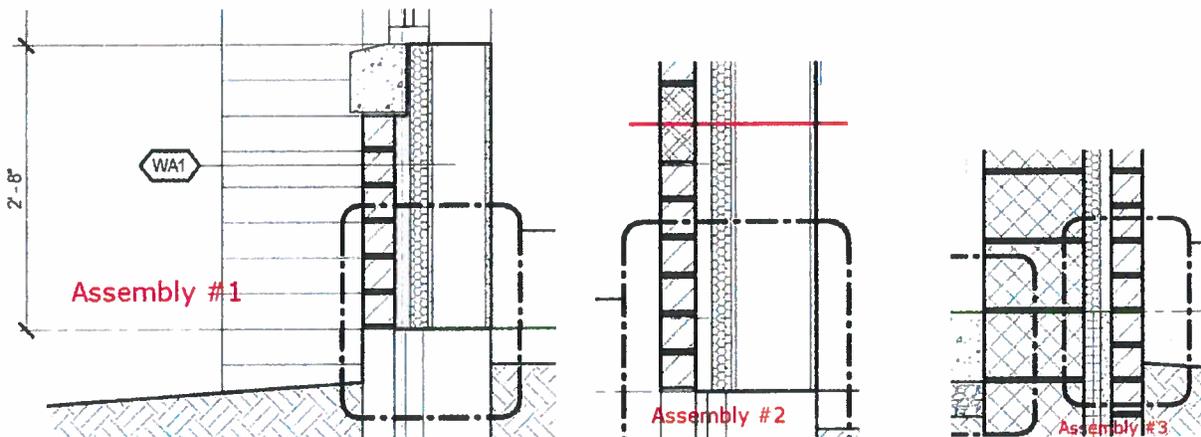
- Therefore, requiring multiple tests because noncombustible materials are changed or varied within an assembly appears to run contrary to the purpose and scope of the test. In photos of tests with noncombustible materials, they remove the noncombustible materials so they can determine the scope of propagation of the *combustible* component(s).



Figure 2. Post-test condition of an exterior wall assembly.

- The IBC currently allows a multitude of combustible materials within noncombustible construction. If one of those "exempted" materials changed from or within one exterior wall assembly to another, it should not be grounds to require another NFPA 285 test.

- The 2012 Code Commentary says, “**The intent is to regulate the use of an insulating envelope over the exterior of a structure when the envelope provides no structural support other than the transfer of wind loads. It is recognized that some envelopes will be constructed in place by installing a rigid foam plastic and covering it with an exterior finish while others will be installed as prefabricated panels complete with exterior finish.**”
 - It would appear the emphasis is not on the “structural” component of the exterior wall (e.g., CMU or steel stud framing) or an exterior finish (e.g., facebrick or, precast), especially if those materials were noncombustible. Therefore, if one of those materials changed from or within one exterior wall assembly to another, it should not be grounds to require another NFPA 285 test.
 - The proposed code change includes text addressing the above. In other words, if a building has two assemblies, and the only difference is that one has CMU backup and the other has gypsum sheathing + steel studs + gypsum drywall backup (all are noncombustible materials), a second NFPA 285 test would not be required. Or, if the only difference was one assembly had facebrick and the other had split-face CMU as the veneer, a second NFPA 285 test would not be required.
 - Refer to the examples below: Assembly #1 would require a test. The accent band of split-face CMU in Assembly #2 would require a second NFPA 285 test, and the change from steel studs/gypsum to CMU in Assembly #3 would require a third NFPA 285 test.



An apparent disconnect appears to exist where the IBC requires all exterior walls of any height (except Type V construction) to be tested in accordance with NFPA 28; however, the scope and purpose of NFPA 285 is for “**exterior non-load-bearing wall assemblies and panels used as components of curtain wall assemblies.**” Therefore, it appears NFPA 285 was not intended to test all walls – only non-load-bearing walls and panels used as components of curtain wall assemblies.

To the best of our knowledge and belief, there is no empirical data in the United States proving loss of life and/or property was the result of foam plastic insulation *in or on* exterior walls in a fully sprinklered building (when operational), or a building whose exterior covering was noncombustible - where the fire originated in the interior of the building.

Refer to the attached document for information on the 2006 and 2012 NFPA 285 test criteria.

Cost Impact:

The proposed code change could reduce the cost of construction approximately \$25,000 - \$35,000 (or more) per exterior wall assembly when compared to the current 2012 code requirements. There are at least two or more different exterior wall assemblies per building; thus, equaling approximately \$50-70,000 or more of potential cost savings per building. Increased savings would be realized the more assemblies there are per building.

Some have suggested Engineering Judgments (which still costs approximately \$3,500 - \$5,000 per exterior wall assembly, per judgment) and/or ICC Evaluation Reports could be submitted in lieu of the NFPA 285 assembly tests. However, the IBC makes no mention of these as an alternative approach, and would be subject to the discretion of each LAHJ (we assume as a code modification request?). This could result in inconsistent enforcement.

Submittal Information

Date Submitted: ~~May 17, 2013~~ August 8, 2013



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: _____

Proponent Information

(Check one): Individual Government Entity Organization

Name: J. Kenneth Payne, Jr., AIA

Representing: VSAIA

Mailing Address: 3200 Norfolk Street, Richmond, VA 23230

Email Address: kpayne@moseleyarchitects.com

Telephone Number: 804.794.7555

Proposal Information

Code(s) and Section(s): 2012 IBC [P] 2902.1.1 and equivalent language in the 2012 IPC - REVISED

Proposed Change (including all relevant section numbers, if multiple sections):

[P] 2902.1.1 Fixture calculations. To determine the *occupant load* of each sex, the total *occupant load* shall be divided in half. To determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the *occupant load* of each sex in accordance with Table 2902.1. Fractional numbers resulting from applying the fixture ratios of Table 2902.1 shall be rounded up to the next whole number. For calculations involving multiple occupancies, such fractional numbers for each occupancy shall first be summed and then rounded up to the next whole number.

Exceptions:

1. The total *occupant load* shall not be required to be divided in half where *approved* statistical data indicate a distribution of the sexes of other than 50 percent of each sex.
2. For outdoor sporting events and outdoor activities at buildings or structures associated with Group E, the minimum number of required water closets and lavatories shall be permitted to be reduced by no more than 50% provided all of the following conditions are met:
 - a. When the necessary water pressure or volume, or both, is not available to the location of such plumbing fixtures to serve such events or activities.
 - b. Approved statistical data indicating the average actual attendance is less than the occupant load determined by this code.
 - c. Approval is granted by the building official.
 - d. The remaining minimum number of required water closets shall be provided by portable toilet facilities that conform to ANSI 4.3 and ICC A117.1, and are equipped with approved hand sanitizers or other approved non-tempered hand-washing capabilities.

Supporting Statement (including intent, need, and impact of the proposal):

This code change proposal addresses those situations where K-12 educational facilities provides spectator seating (e.g., bleachers), and therefore, is required to provide the minimum number of plumbing fixtures based on the maximum potential occupancy of those bleachers – even when the maximum attendance may be achieved rarely per year (once or twice per year?). Meeting the minimum plumbing fixtures based on maximum occupancy can oftentimes become cost prohibitive and a burdensome task – especially in localities where water is not readily available and/or must be supplied by a well and/or pump.

Oftentimes, the fixed seating facilities are at capacity no more than a handful of times per year; yet, the minimum plumbing fixtures factors result in a vast number of plumbing fixtures that could remain unused for 6 months or more out of a typical school year. Oftentimes, draining of the water lines is required to avoid freezing, or traps must be continually primed, or the heat must be run in an unoccupied building to avoid freezing the pipes, or a combination of all of the above.

If a reduced plumbing fixture count were allowed per the code change proposal, on those occasions where the actual attendance exceeds the number of fixed plumbing fixtures provided, portable toilet facilities (w/ some form of hand-cleaning capabilities) would be allowed. For example, say a high school would like to provide bleacher seating for 3,000 people (they might sell out for their cross-town rival and/or might want to host a regional playoff game), per Table 2902.1 (A-5) the following minimum number of plumbing fixtures must be provided:

- Per Section 2902.1.1, divide occupant load by half = 1,500 male and 1,500 female
 - 1,500 male: 20 water closets + 8 lavatories
 - 1,500 female: 38 water closets + 10 lavatories
- Per the proposed code change, the required number of permanent plumbing fixtures would result in the following: (allow for up to a 50% reduction in water closets and lavatories)
 - Male: 10 water closets + 4 lavatories
 - Female: 19 water closets + 5 lavatories
- Portable toilet facilities would need to make up the difference in water closets and lavatories. Hand washing would be handled by *approved* sanitizers or non-tempered washing stations.
 - 29 portable toilets would be required in the example above
 - If more than 3,000 people attended the outdoor event, then more portable toilet facilities (beyond the 29) would be required to make up the difference.

Portable toilet facilities are currently allowed for numerous outdoor events and activities. It seems only reasonable that similar accommodations could be allowed for K-12 educational facilities where water supply is limited or not available where the outdoor events occur.



Portable toilet facilities (ANSI 4.3)



Hand washing station (example)

REMINDER:

Code requires all required plumbing fixtures be within 500 feet of travel distance. If fully enforced, a typical high school may require MULTIPLE field houses and/or plumbing facilities throughout the athletic complex. Portable facilities would help alleviate this potential.

Cost Impact:

The cost **savings** could be substantial in both initial and life cycle (maintenance) costs.

Regarding the revisions and selected comments received:

- Deleted the “footnote” to Table 2902.1. It was felt the exception was enough and did not warrant duplicative language at the Table.
 - Another “outdoor” was added to Exception #2 to clarify the intent is to apply to “outdoor” activities, and could not be interpreted to apply to “indoor” activities.
 - Added the water limitation requirements (similar language as used under VCC 903.2.8), since the main impetus of the code change was for locales where water is scarce or non-existent.
 - Delete “educational occupancies” and substituted “Group E” to ensure this would apply only to K-12 facilities, and not other “educational” facilities, which may be interpreted to include colleges and universities.
1. *The facilities should meet a standard otherwise there would be no clear guidance as to what constitutes an acceptable portable toilet.*
 - a. ANSI 4.3 reference was added.
 2. *Why not just require the other 50% (based on maximum seating available) to be in place at the event regardless of the actual anticipated occupant load? That way adequate facilities would be available even under maximum occupant load conditions.*
 - a. Exception 2d was revised to require the remaining 50% be provided, no matter what attendance is anticipated, which should also assist in the enforcement (would not have to know how many people would attend each event).
 3. *At least tempered water is required for public hand washing facilities so an exception to VPC 607.1 may need to be considered.*
 - a. Clarification was added that tempered water was not required for the hand-washing facilities. Please advise if an exception is required.
 4. *What about accessibility?*
 - a. Reference to ICC A117.1 was added.
 5. *Once we start allowing portable facilities to replace permanent fixtures where will it stop?*
 - a. We contend it occurs now – at any event where portable facilities are used (e.g., amphitheater movie night, Redskins Fan Appreciation Day, almost every sporting event throughout Virginia, etc.).
 - b. Each code change proposal should be evaluated on its own merit, and not “what ifs” or “what it could lead to.”
 - i. If future code change proposals attempt to expand where portable facilities could be used – do not support them
 6. *Guard houses, maintenance work-shops, seasonal business, temporary realtor offices, vacation homes, hunting cabins, etc.*
 - a. Code change is limited to Group E outdoor sporting events and activities.
 7. *A once a year concert at a park is a much different scenario than a high school schedule of sporting events. With regular events such as Track-field, baseball, softball, football, soccer, lacrosse, that usually includes both girls and boys separately and includes varsity, junior varsity and freshman regular schedules of events almost year round . . .*
 - a. Exceptions 2a, 2b, and 2c should address the above concerns
 - i. It would only be allowed where water supply is limited or non-existent (limited applications)
 - ii. Statistical data must be submitted supporting the reduced number of fixtures
 - iii. Ultimately must be approved by the building official – in other words, it is not automatic
 8. *The Averett Convocation Center in Danville was granted some allowances based on it being used as a back-up indoor graduation hall once a year. Now it’s used for graduation of all area high schools, concerts, theatrical productions, etc.*
 - a. Code change is limited to facilities associated with Group E outdoor sporting events and activities.
 - b. We assume the Averett Convocation Center was classified as Group A, and was associated with Averett University – which is not Group E
 - i. Therefore, the above scenario should not be applicable per this proposed code change.

Submittal Information

Date Submitted: ~~May 17, 2013~~ August 8, 2013



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change Number: _____

Proponent Information (Check one): Individual Government Entity Company

Name: For consideration by the sub-workgroup on USTs _____

Mailing Address: _____

Email Address: _____ Telephone Number: _____

Proposal Information

Code(s) and Section(s): SFPC Section 5704.2.13.1.3 _____

Proposed Change (including all relevant section numbers, if multiple sections):

Add an exception to Section 5704.2.13.1.3 to read as follows:

5704.2.13.1.3 Out of service for one year. Underground tanks that have been out of service for a period of one year shall be removed from the ground in accordance with Section 5704.2.14 or abandoned in place in accordance with Section 5704.2.13.1.4.

Exception: The closure of underground tanks subject to the Virginia State Water Control Board regulations under Section 414.6.2 of the USBC shall be permitted to be in accordance with those regulations.

Supporting Statement (including intent, need, and cost impact of the proposal):

This proposal is a companion proposal to a change to Section 414.6.2 of the USBC to correlate the application of the State Water Control Board's UST regulations with both the USBC and the SFPC.

Submittal Information

Date Submitted: _____

The proposal may be submitted by email as an attachment, by fax, by mail, or by hand delivery.

Please submit the proposal to:

DHCD DBFR SBCO (State Building Codes Office)
600 East Main Street
Suite 300
Richmond, VA 23219

Email Address: Vernon.hodge@dhcd.virginia.gov
Fax Number: (804) 371-7092
Phone Numbers: (804) 371-7150



VIRGINIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF BUILDING AND FIRE REGULATION

Code Change Form for the 2012 Code Change Cycle

Code Change
Number: _____

Proponent Information

(Check one): Individual Government Entity Company

Name: Chuck Bajnai

Representing: VBCOA IRC Committee

Mailing Address: 9800 Government Center Parkway, Chesterfield, VA, 23832

Email Address: bajnaic@chesterfield.gov

Telephone Number: 804-717-6428

Proposal Information

Code(s) and Section(s): R507 - Decks

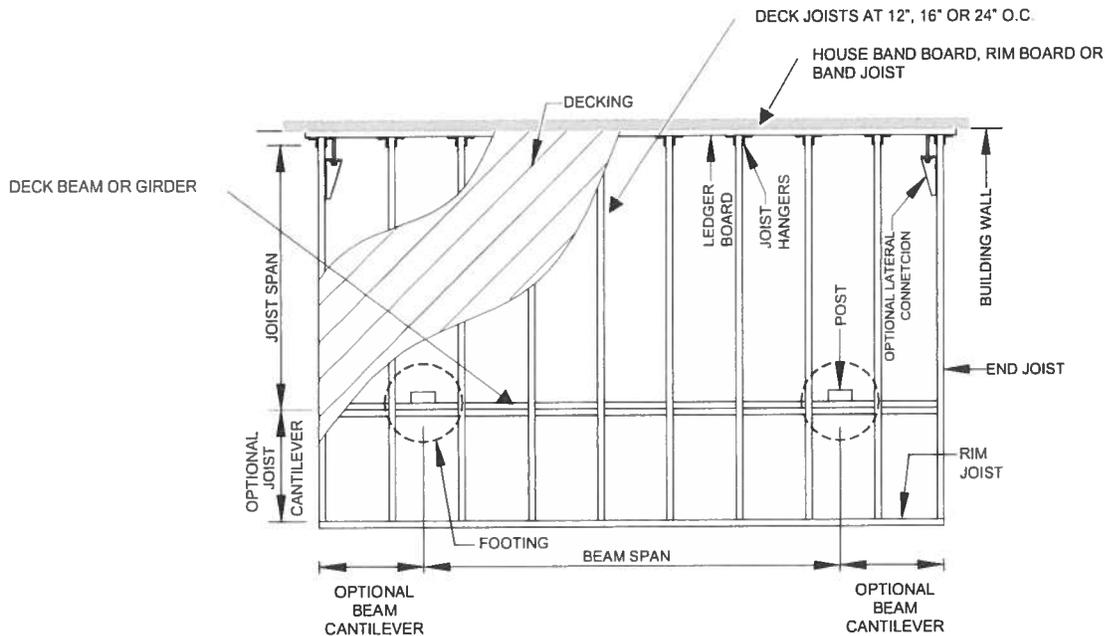
Proposed Change (including all relevant section numbers, if multiple sections):

Delete Section R507 and replace it with the following:

SECTION R507 DECKS

R507.1 Wood decks. Decks of wood-frame construction shall be designed and constructed in accordance with this section. The use of other species of lumber or lesser grades of materials or different loading conditions not described herein shall be permitted in accordance with Section 301.1.1.

R507.2 Requirements. Deck construction shall be capable of accommodating all vertical and lateral loads in accordance with Section R301 and transmitting them to the supporting structural elements. Figure R507.2 is intended for purposes of identifying typical parts, and not to limit the design.



For SI: 1 inch = 25.4 mm
For SI: 1 inch = 25.4 mm

**FIGURE R507.2
DECK CONSTRUCTION**

R507.3 Materials. Materials used in the construction of a wood-framed deck shall comply with the requirements of this section.

R507.3.1 Lumber. All lumber shall be minimum No 2 grade dimension lumber. Lumber may be cut, drilled or notched in accordance with Section R502.8 except where prohibited in Section R507.11. In geographical areas where decay-resistant lumber is required, lumber shall be either naturally durable and identified in accordance with Section R502.1, or preservative-treated in accordance with Section R317. Where termite-resistant lumber is required per Table R301.2 (1), lumber shall comply with Section R318.

R507.3.2 Plastic composites. Plastic composite deck boards, stair treads, guard and handrail systems shall comply with the requirements of R317.4 and installed in accordance with the manufacturer's installation instructions.

R507.3.3 Other materials. Metal, glass, concrete or other materials used for deck construction, including guard and handrail systems shall be permitted in accordance with the requirements in Chapter 3 and installed in accordance with the manufacturer's installation instructions.

R507.3.4 Fasteners and connectors. Nails, bolts with nuts and washers, screws, fasteners and connectors shall be protected in accordance with Section R317.3. Fasteners and connectors shall be installed in accordance with manufacturer's installation instructions.

R507.3.5 Flashing. Flashing shall be corrosion-resistant metal of minimum nominal 0.019 inch (0.5 mm) thickness or approved non-metallic material.

R507.4 Deck boards. Deck board spans shall comply with the requirements of Table R507.4. Wood deck boards shall be attached to each supporting member with a minimum of (2) 8d nails or (2) #8 wood screws.

**TABLE R507.4
MAXIMUM DECK BOARD SPANS**

MATERIAL TYPE AND NOMINAL SIZE	DECK BOARDS PERPENDICULAR TO JOIST	DECK BOARDS DIAGONAL TO JOIST ^a
5/4-inch thick wood	16 inches	12 inches
2-inch thick wood	24 inches	16 inches
Plastic composite	Per R507.3	Per R507.3

For SI: 1 inch = 25.4 mm

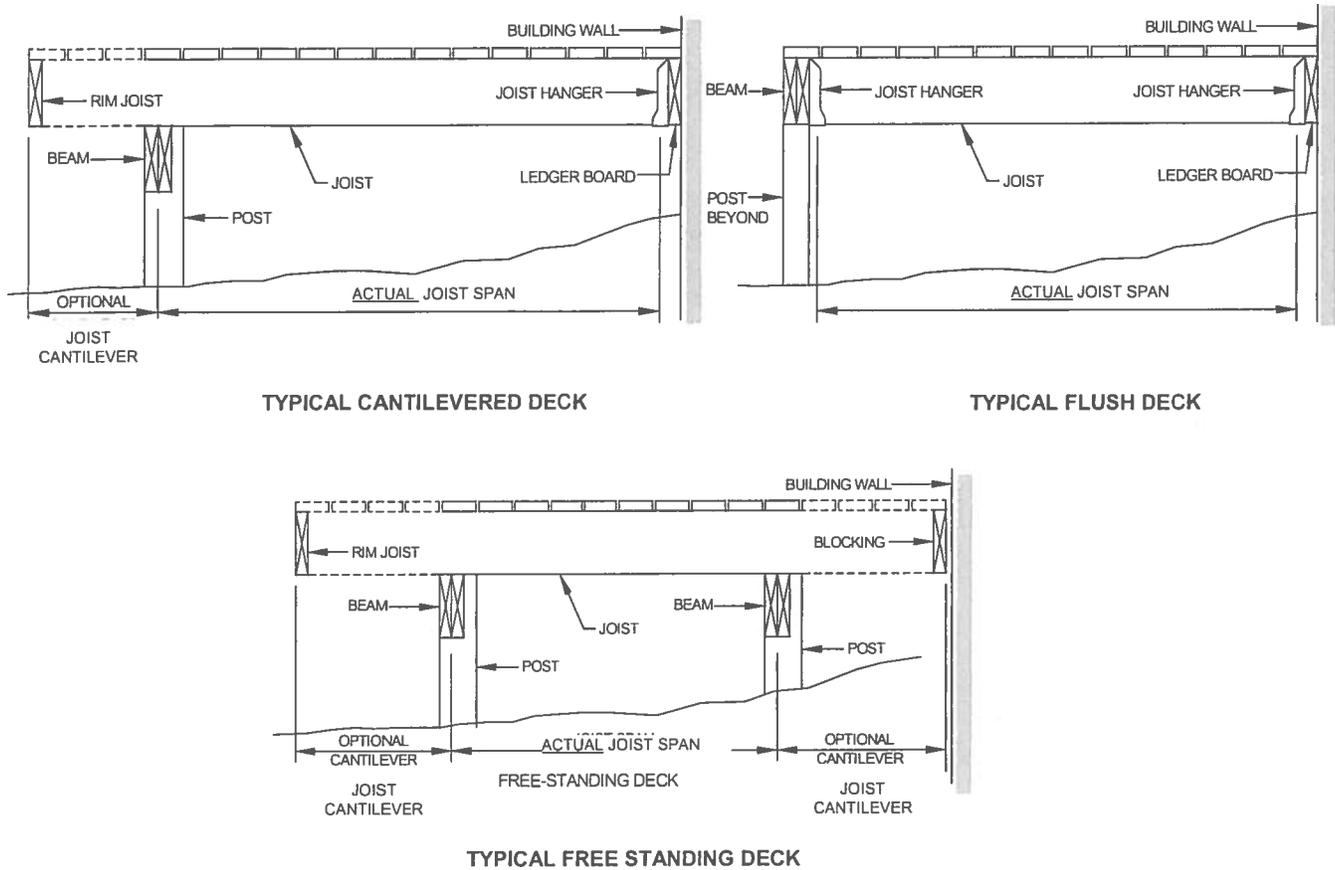
a. Maximum angle of 45 degrees from perpendicular for wood deck boards

R507.5 Deck joists. Spans for typical wood deck joist configurations shall be measured as shown in Figure R507.5, and shall not exceed the span lengths per Table R507.5. Deck joists shall be permitted to cantilever a maximum of one-fourth of the actual joist span.

R507.5.1 Deck joist support. Ends of deck joists shall be supported to prevent vertical and lateral displacement. The ends of joists shall have a minimum of 1.5 inches (38 mm) of bearing on a deck beam, wood ledger board or on metal hangers. Joists shall be connected to deck beams with approved fasteners or connectors. Where lateral support is provided by joist hangers or blocking between joists, the depth of hanger or blocking shall equal not less than 60 percent of the joist depth. Where lateral support is provided by rim joists, the rim joist shall be secured to the end of each joist with a minimum of (3)10d nails or (3)#10x3 inch (76 mm) long wood screws.

R507.6 Deck Beams. The maximum allowable deck beam span for single or multiple ply deck beams shall be in accordance with Table R507.6. Beams shall be permitted to cantilever at each end up to one-fourth of the adjacent beam span. The plies of a multi-ply beam shall be fastened with a minimum of two rows of 10d nails at 16 inches (406 mm) or equivalent screws or bolts.

R507.6.1 Beam bearing. Single-ply and multi-ply beams shall bear directly on wood posts or on an approved metal post cap in accordance with Figure R507.7.1 and not less than 3 inches (76 mm) on concrete or masonry walls or piers.



**FIGURE R507.5
TYPICAL DECK JOIST CONFIGURATIONS**

R507.7 Deck posts. Posts shall be measured from the top of the footing to the underside of the beam. The maximum height of the post shall be in accordance with Table R507.7.

507.7.1 Deck post connection to deck beam. Deck beams shall be attached to wood deck posts in accordance with Figure R507.7.1. Other optional post to beam connections shall be permitted to resist lateral displacement. Manufactured post-to-beam connectors shall be sized for the post and beam sizes. All bolts shall have washers under the head and nut.

**TABLE R507.5
MAXIMUM DECK JOIST SPANS FOR COMMON LUMBER SPECIES (ft.-in.)**

SPECIES ^a	JOIST SIZE	DECK JOIST SPACING WITHOUT CANTILEVER ^{b,f} (in.)			DECK JOIST SPACING WITH CANTILEVERS ^c (in.)		
		12" o.c.	16" o.c.	24" o.c.	12" o.c.	16" o.c.	24" o.c.
Southern pine	2 x 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 x 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 x 10	16-2	14-0	11-5	14-6	14-0	11-5
	2 x 12	18-0	16-6	13-6	18-0	16-6	13-6
Douglas fir-larch ^d , hem-fir ^d , spruce-pine-fir ^d	2 x 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 x 8	12-6	11-1	9-1	9-5	9-5	9-1
	2 x 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 x 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood, western cedars, ponderosa pine ^e , red pine ^e	2 x 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 x 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 x 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 x 12	17-5	15-1	12-4	16-5	15-1	12-4

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- No. 2 grade with wet service factor.
- Deck joists shall be designed to carry the deck live load in Table R301.5 or the ground snow load, which ever is greater. This table is based on ground snow load or live load = 40 psf, dead load = 10 psf, $L/\Delta = 360$.
- Deck joists shall be designed to carry the deck live load in Table R301.5 or the ground snow load, which ever is greater. This table is based on ground snow load or live load = 40 psf, dead load = 10 psf, $L/\Delta = 360$ at main span, $L/\Delta = 180$ at cantilever with a 220 pound point load applied to end.
- Includes incising factor.
- Northern species with no incising factor.
- Joists are permitted to cantilever from the deck beam by a length not to exceed the depth of the deck joist.

R507.8 Deck footings. Deck footings shall be constructed in accordance with Section R403. The cross sectional area of the footing shall be adequate to carry the load applied by the posts based on the bearing capacity of the soil.

R507.8.1 Footing depth. The minimum depth of footings shall be in accordance with Section R403.1.4 or as approved by the building official. Where a deck footing is within 4 feet of an adjacent, existing footing, the deck footing shall bear at the same depth as the existing footing.

R507.8.2 Deck post connection to footing. Deck posts shall be restrained to prevent lateral displacement at the bottom end. Such lateral restraint shall be provided by manufactured connectors or a minimum post embedment of 12-inches in surrounding soils or concrete as shown in Figure R507.8.2.

**TABLE R507.6
MAXIMUM BEAM SPAN LENGTHS ^a**

SPECIES	BEAM SIZE ^b	MAXIMUM MAIN JOIST SPAN (ft-in.)						
		6 ft	8 ft	10 ft	12 ft	14 ft	16 ft	18 ft
Southern pine	(2) - 2x6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	(2) - 2x8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	(2) - 2x10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	(2) - 2x12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	2x6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	(3) - 2x8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	(3) - 2x10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
Douglas fir-larch ^c , spruce-pine-fir, redwood ^c , western cedars, ponderosa pine ^d , red pine ^d	(3) - 2x12	15-3	13-3	11-10	10-9	10-0	9-4	8-10
	(1) - 3x6 or (2) - 2x6	5-5	4-8	4-2	3-10	3-6	3-1	2-9
	(1) - 3x8 or (2) - 2x8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
	(1) - 3x10 or (2) - 2x10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
	(1) - 3x12 or (2) - 2x12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	(1) - 4x6	6-5	5-6	4-11	4-6	4-2	3-11	3-8
	(1) - 4x8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	(1) - 4x10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	(1) - 4x12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	(3) - 2x6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
	(3) - 2x8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
	(3) - 2x10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	(3) - 2x12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

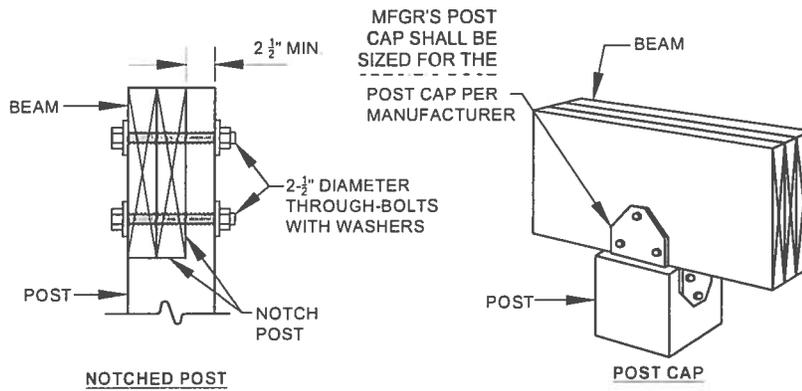
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

- Deck beams shall be designed to carry the deck live load in Table R301.5 or the ground snow load, whichever is greater. This table is based on ground snow load or live load = 40 psf, dead load = 10 psf, $L/\Delta = 360$ at main span, $L/\Delta = 180$ at cantilever with a 220 pound point load applied to end. No 2 grade, wet service factor.
- Beam depth shall be greater than or equal to depth of joists with a flush beam condition.
- Includes incising factor.
- Northern species with no incising factor.

**TABLE R507.7
DECK POST HEIGHT**

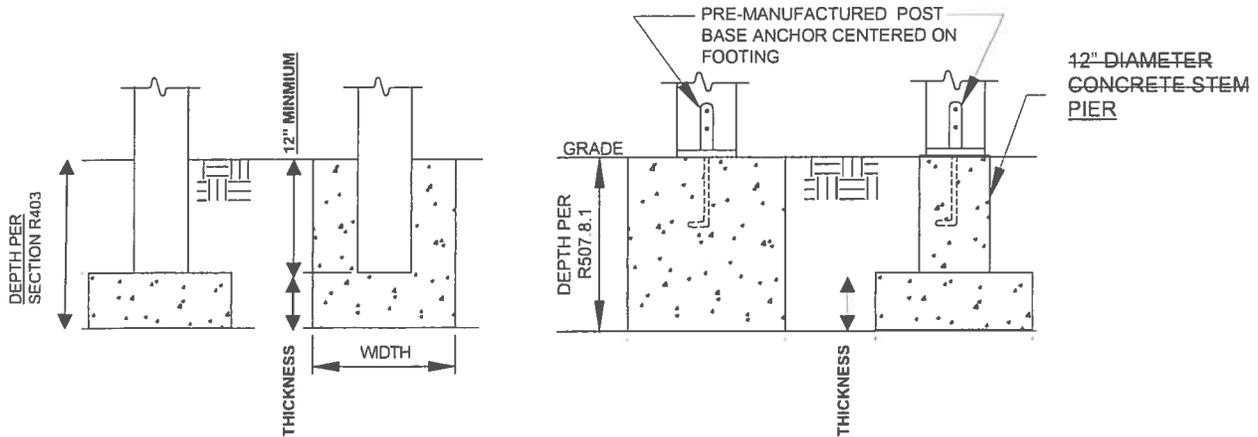
NOMINAL DECK POST SIZE	MAXIMUM HEIGHT
4x4	8'
4x6	8'
6x6	14'

For SI: 1 foot = 304.8 mm.



For SI: 1 inch = 25.4 mm

**FIGURE R507.7.1
TYPICAL BEAM BEARING ON WOOD POST**



**FIGURE R507.8.2
TYPICAL DECK FOOTINGS**

R507.9 Deck ledger board connection to the building. The connection between a deck ledger board and the building shall be in accordance with this section.

R507.9.1 Deck ledger board connection to band joist. The deck ledger board shall be connected to a nominal 2-inch thick lumber band joist with ½-inch lag screws or bolts with washers in accordance with Figures R507.9.1(1) and R507.9.1(2) and spaced in accordance with Table R507.9.1. As an alternative to the detail in Figure R507.9.1(2), the ledger board shall be permitted to be offset from the house band joist or exterior sheathing a maximum distance of ½ inch (13 mm) with the installation of stacked washers.

The exterior wall finish shall be removed prior to installation of the ledger board. Flashing at a door threshold shall be installed to prevent water intrusion from rain or melting ice and snow.

R507.9.2 Deck ledger board connection to concrete foundation walls. A ledger board shall be connected to a concrete or solid masonry foundation wall with approved ½ inch (13 mm) diameter anchors spaced in accordance with Table R507.9.1 and as shown in Figure R507.9.2. Adhesive or mechanical anchors shall be installed per the manufacturer's installation instructions.

R507.9.3 Ledger board connection to hollow masonry foundation wall. A ledger board shall be connected to a hollow masonry foundation wall with approved ½ inch (13 mm) diameter anchors spaced in accordance with Table R507.9.1 and as shown in Figure R507.9.3. Adhesive or mechanical anchors shall be installed per the manufacturer's installation instructions.

R507.9.4 Alternate connections. An engineered wood rim board with a minimum thickness of 1 inch (25 mm) shall be permitted to substitute for a 2x lumber band joist provided the engineered wood rim board was designed by the manufacturer to support a deck. A ledger board attachment to a masonry or stone veneer, ribbon board of open web floor trusses, band joist of a cantilevered floor or other conditions not addressed herein shall be designed in accordance with accepted engineering practice, or the deck shall be free-standing in accordance with Section R507.10.

R507.9.5 Attachment to resist lateral load. A lateral load connection is required by Section R507.2. The following connections shall be deemed to comply; other design solutions are permitted in accordance with R301.

R507.9.5.1 Connection at parallel joists. Where floor joists and deck joists are parallel to each other, a hold-down or similar tension device with a minimum capacity of 1,500 pounds (6672 N) as shown in Figures R507.9.5.1(1) and R507.9.5.1(2) shall be permitted. The hold-down device shall be located within 24 inches of each end joist. The floor sheathing fasteners shall be permitted to be substituted with two reinforcing angles with a minimum capacity of 375 pounds (1668 N) each on each side of the joist.

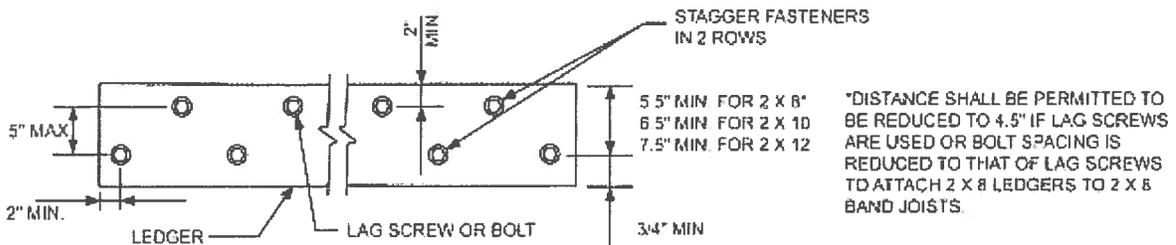
R507.9.5.2 Connection at perpendicular joists. Where the floor joists and deck joists are perpendicular to each other, a hold-down or similar tension device with a minimum capacity of 1,500 pounds (6672 N) shall be provided as shown in Figure R507.9.5.2. The hold-down device shall be located within 24 inches of each end joist. The floor sheathing shall be permitted to be substituted with two reinforcing angles-with a minimum capacity of 375 pounds (1668 N) each on each side of the joist.

**TABLE R507.9.1
FASTENER SPACING**

FASTENER	BAND BOARD	JOIST SPAN						
		≤6'	> 6'-8'	> 8'-10'	> 10'-12'	> 12'-14'	> 14'-16'	> 16'-18'
½" lag screws ^a	1" min. engineered wood product	24"	18"	14"	12"	10"	9"	8"
	2x lumber	30"	23"	18"	15"	13"	11"	10"
½" through bolts	1" min. engineered wood product	24"	18"	14"	12"	10"	9"	8"
	2x lumber	36"	36"	34"	29"	24"	21"	19"
½" through bolts and ½" stacked washers ^b	1" min. engineered wood product	24"	18"	14"	12"	10"	9"	8"
	2x lumber	36"	36"	29"	24"	21"	18"	16"
Mechanical anchors ^c	-	36"	36"	34"	29"	24"	21"	19"
Adhesive anchors ^d	-	32"	32"	32"	24"	24"	16"	16"

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm

- a. The tip of the lag screw shall fully extend beyond the inside face of the band board.
- b. The maximum gap between the face of the ledger board and face of the wall sheathing shall be ½ inches (13 mm).
- c. Mechanical anchors shall have a minimum allowable shear of 725 pounds, and a minimum allowable tension of 505 pounds
- d. Adhesive anchors shall have a minimum allowable shear of 675 pounds, and a minimum allowable tension of 505 pounds.



For SI: 1 inch = 25.4 mm.

**FIGURE R507.9.1(1)
PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS-BOARDS**

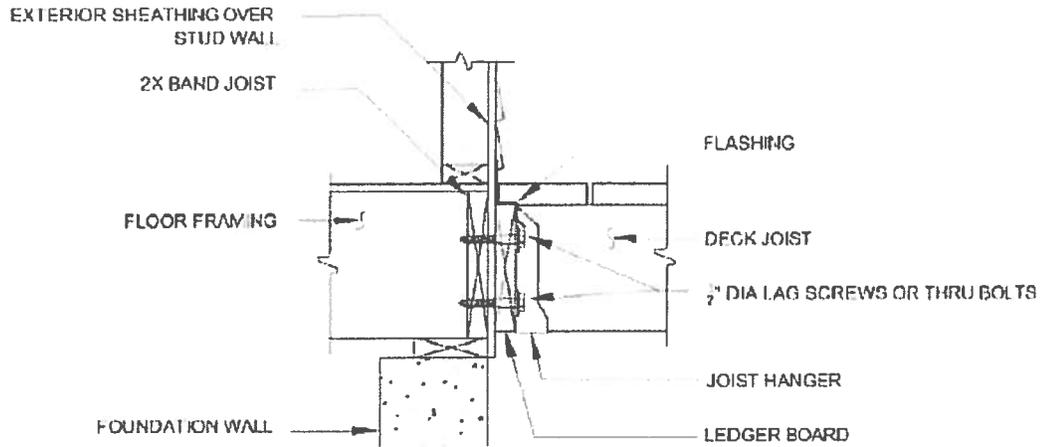


FIGURE R507.9.1(2)
LEDGER BOARD TO BAND BOARD ATTACHMENT

LEDGER BOARD TO BAND BOARD ATTACHMENT

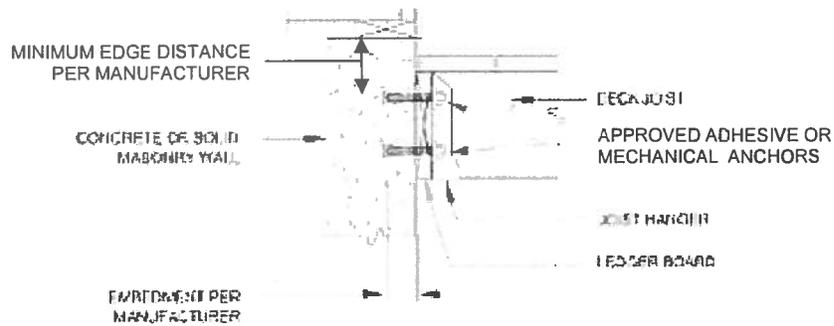


FIGURE R507.9.2
LEDGER BOARD TO SOLID FOUNDATION WALL ATTACHMENT

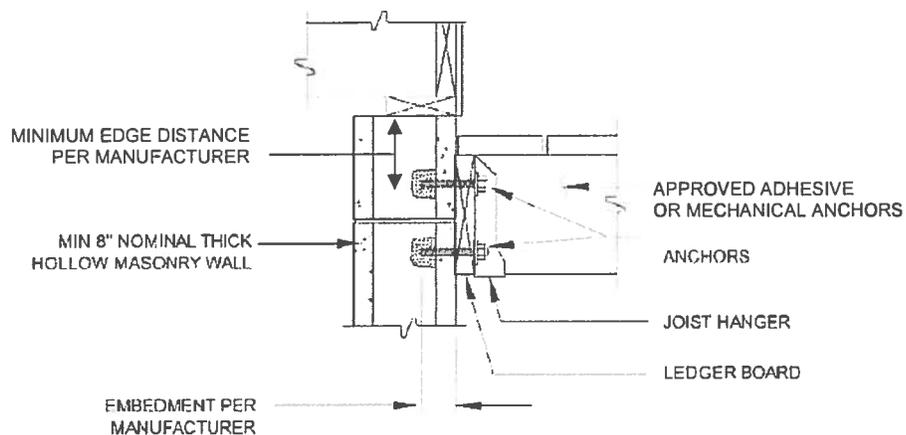
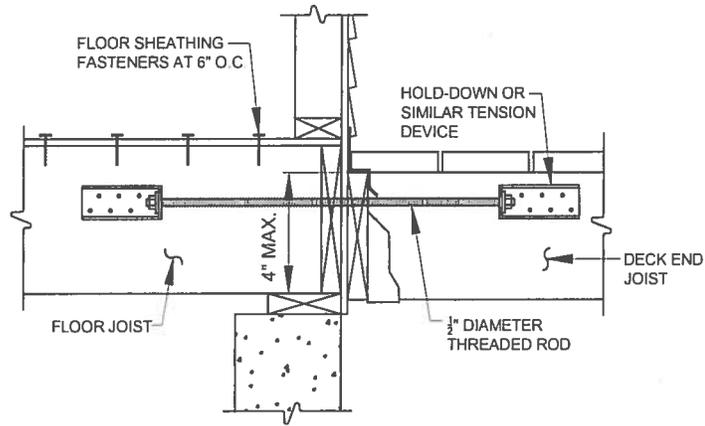
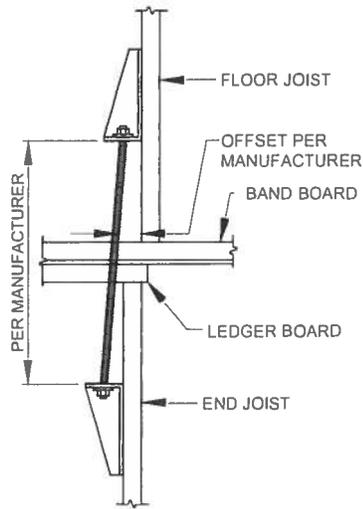


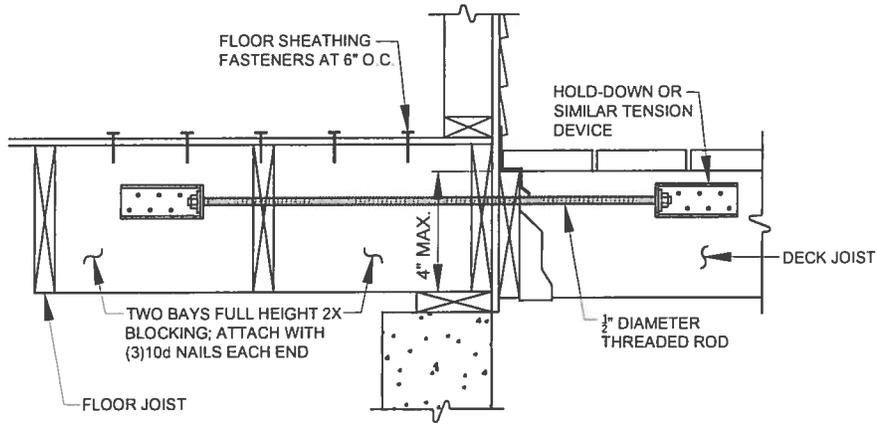
FIGURE R507.9.3
LEDGER BOARD TO HOLLOW MASONRY FOUNDATION WALL ATTACHMENT



**FIGURE R507.9.5.1(1)
CONNECTION AT PARALLEL JOISTS**



**FIGURE R507.9.5.1(2)
OFFSET AT PARALLEL JOISTS**



For SI: 1 inch = 25.4 mm

FIGURE R507.9.5.2
LATERAL SUPPORT WHERE INTERIOR JOIST ARE PERPENDICULAR TO DECK

R507.10 Free-standing decks. As shown in Figures R507.5 and R507.10, free-standing decks shall transfer all of the deck loads directly to the footings. Beams shall be sized in accordance with Section R507.6.

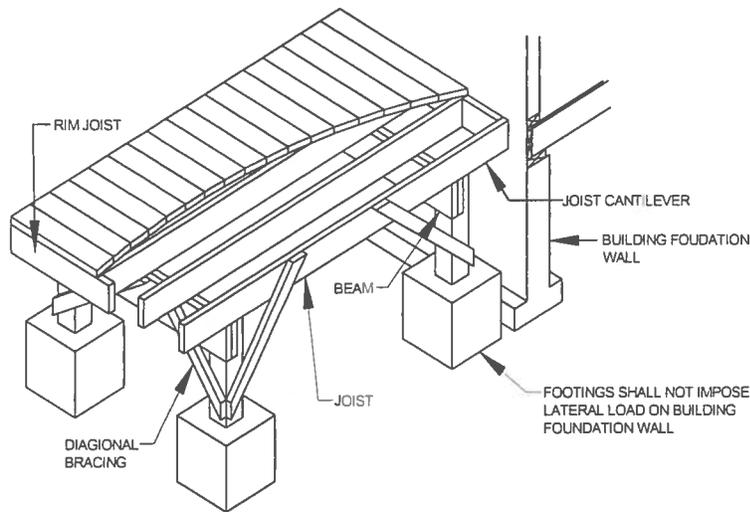
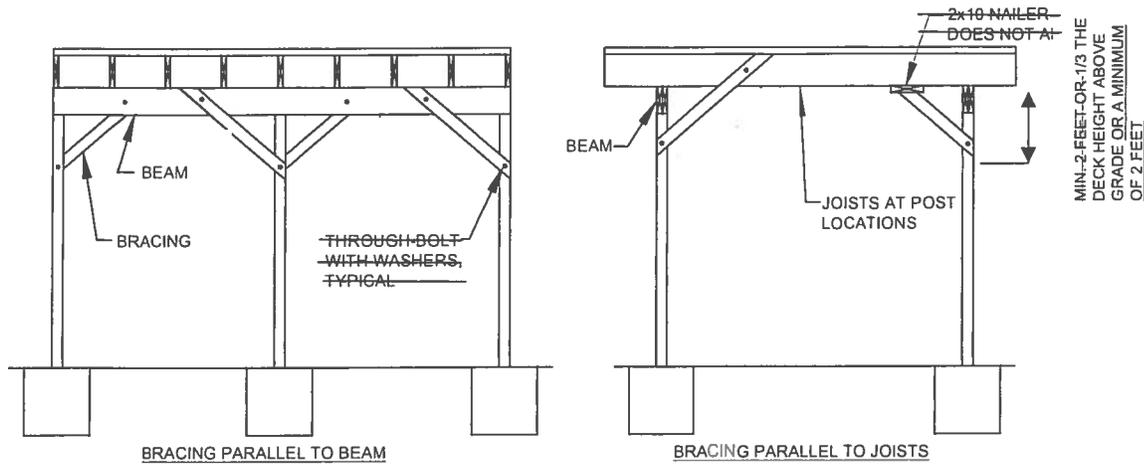


FIGURE R507.10
TYPICAL FREE-STANDING DECK

R507.10.1 Diagonal bracing. Diagonal bracing shall be provided in accordance with Figure R507.10.1 on free-standing decks greater than 30 inches above grade. Bracing shall be placed at a 45 degree angle at each post location in the parallel and perpendicular directions to the beam. Bracing shall be constructed with nominal 2x4 lumber and shall be fastened to framing with one 1/2 inch (9 mm) diameter through bolt or by the use of other mechanical devices. The length of the diagonal brace shall be 1/3 the height of the deck above grade or a minimum of 2 feet.



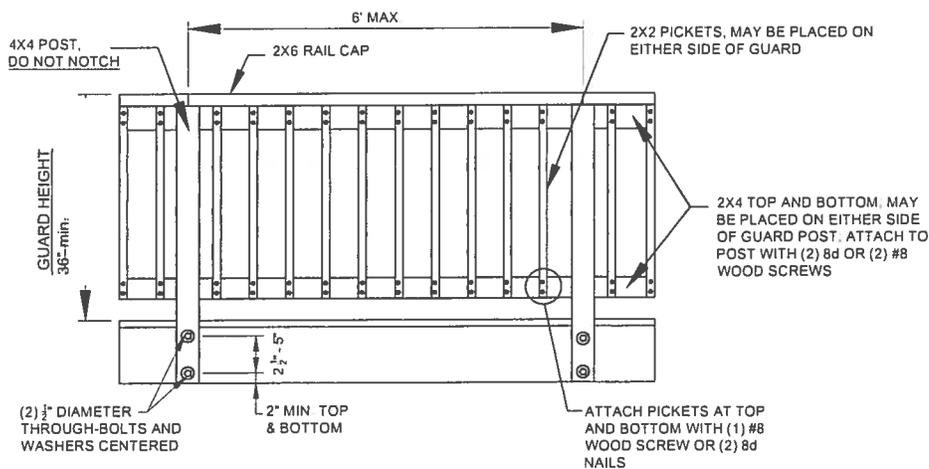
For SI: 1 foot = 304.8 mm

**FIGURE R507.10.1
FREE-STANDING DECK DIAGONAL BRACING**

R507.11 Deck guards. Deck guards shall be designed and constructed in accordance with Sections R301.5 and R312. Other materials and construction details shall be permitted in accordance with Section R301. Wood deck guards shall not be notched.

R507.11.1 Guard construction. Guard posts shall be attached to the inside or outside face of the rim joist or end joist as shown in Figures R507.11.1(1) through R507.11.1(3). Hold-down fasteners shall have a minimum capacity of 1,800 pounds (8006 N).

R507.11.2 Guard rail construction. The guard rail cap shall be nailed to the top of the guard post with a minimum of four 16d common nails or #12 by 3" long screws, or an alternate connection that will resist 200 pounds of shear force.



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm

**FIGURE R507.11.1(1)
TYPICAL DECK GUARD**

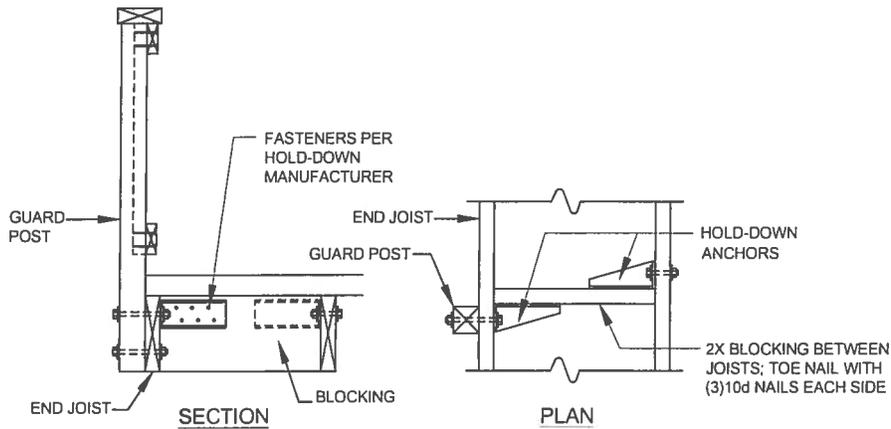


FIGURE R507.11.1(2)
GUARD POST TO END JOIST CONNECTION

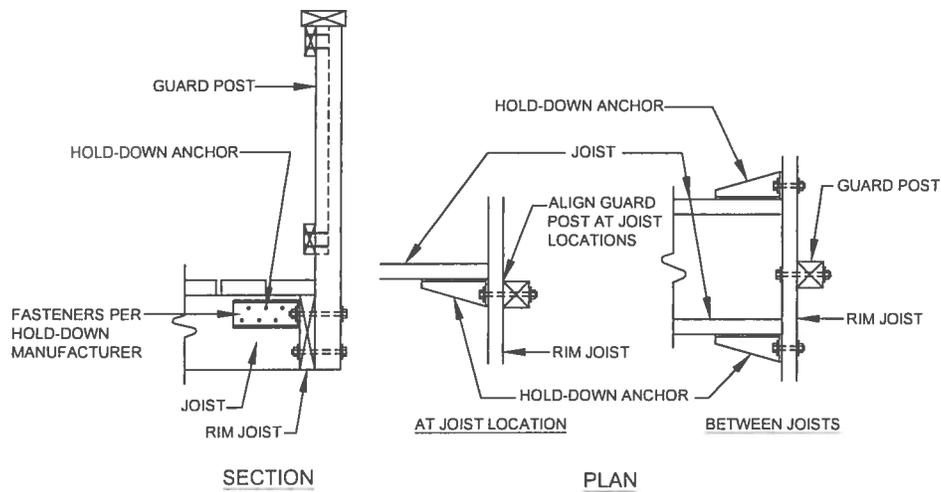


FIGURE R507.11.1(3)
GUARD POST TO RIM JOIST CONNECTION

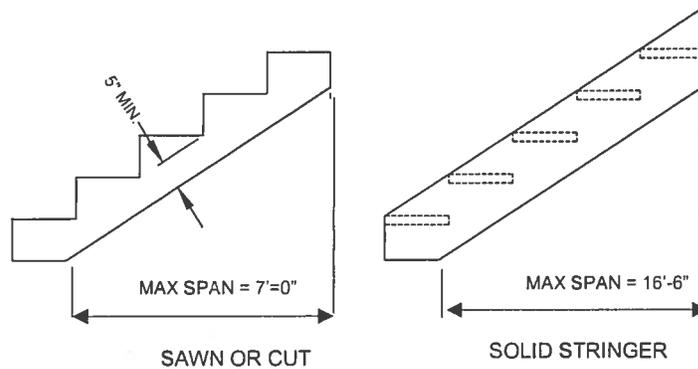
R507.12 Deck stairs. Deck stairs shall be constructed in accordance with this section and Section R311.7. Where a flight of stairs has a vertical rise greater than that allowed per Section R311.7.3, an intermediate landing shall be provided.

R507.12.1 Stair stringers. Stair stringers shall be constructed of nominal 2x12 lumber as shown in Figures R507.12.1(1) and R507.12.1(2). Stringers with spans greater than those shown in Figure R507.12.1(1) shall be supported with intermediate posts and footings spaced along its length.

R507.12.2 Treads and risers. Stair treads shall be constructed in accordance with Section R311.7 and Figure R507.12.1(2). Treads shall be composed of nominal 2x lumber or plastic composites. Risers shall be permitted to be composed of nominal 1x lumber. Openings in risers shall not allow the passage of a 4 inch (102 mm) diameter sphere.

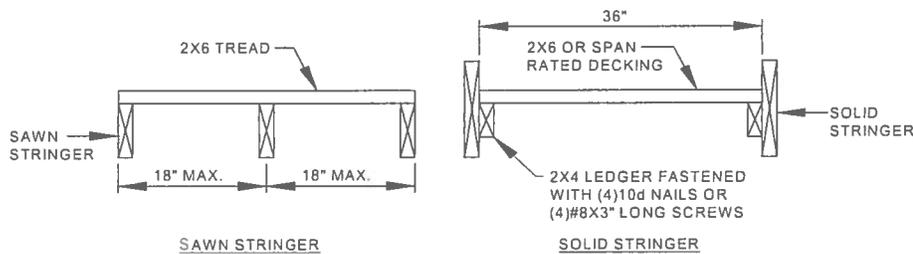
R507.12.3 Stair guards. Guards for stairs shall be as required per Section R312.1.

R507.12.4 Stair handrails. A stair handrail may be required per Section R311.7.8. When a guard is required in accordance with Section R312.1.1, the top rail shall comply with the handrail grip size requirements of Section R311.7.8.3 or a separate handrail shall be provided.



For SI: 1 inch = 25.4 mm, 1 foot = 304.8

**FIGURE R507.12.1(1)
STAIR STRINGER REQUIREMENTS**



For SI: 1 inch = 25.4 mm

**FIGURE R507.12.1(2)
STRINGER WIDTH REQUIREMENTS**

R507.13 Ramps. Ramps from decks shall be as required in Section R311.8. Details for stringers, guards and handrails shall be similar to those for stairs.

Reason:

This proposal was originally submitted to address the lack of prescriptive deck construction details in the IRC. Prescriptive details are needed in the code to help the “weekend warrior” or other inexperienced builders who do not build decks on a regular basis. The construction of safe decks is an important issue that warrants inclusion in the IRC.

The committee in Dallas agreed that Section R507 was woefully deficient in providing minimum prescriptive deck criteria. This public comment integrates many comments from multiple interested parties.

Arguing in support of this proposal in Dallas, several proponents rightfully pointed out that many jurisdictions across the country have deferred to DCA6 as an acceptable guide for building decks. In the absence of IRC criteria, DCA6 was a respected alternative. This submission is based on many of the provisions in DCA6.

The opponents in Dallas argued that some of the details were different than those used in their parts of the country. They missed the opening sentences in the first section – that this proposed code change was intended to provide 1) *typical* requirements and details and 2) other materials and methods were equally acceptable. It was argued that providing minimum requirements for the average homeowner in no way was intended to stifle deck craftsmen.

Numerous examples of engineered solutions and commonly accepted details have been sent to me from many parts of the country. There are YouTube videos from well established stores, like Home Depot, that are offering “how to” videos that are teaching the average homeowner wrong ways to build decks. Some of these are so egregiously wrong that they could jeopardize life safety. In the absence of good code, the handy homeowner will resort to anything – good or bad: to paraphrase a TV commercial: “everyone knows that everything on the internet is correct”

In conclusion, there are several public comments to RB 264 and RB268 being submitted to fill the void on how to build decks safely. There is a short version, a medium length version and this more complete version. We think that less is less, and more is better. We submit this longer version because the average deck builders, plan reviewers and inspectors have nothing in the IRC to help them with a deck design. Homeowners and non-professionals need to have simple prescriptive methods for building a safe deck, and we believe this proposal provides those guidelines.

I strongly recommend that you support RB268 so that we will have prescriptive criteria in the code for building decks.